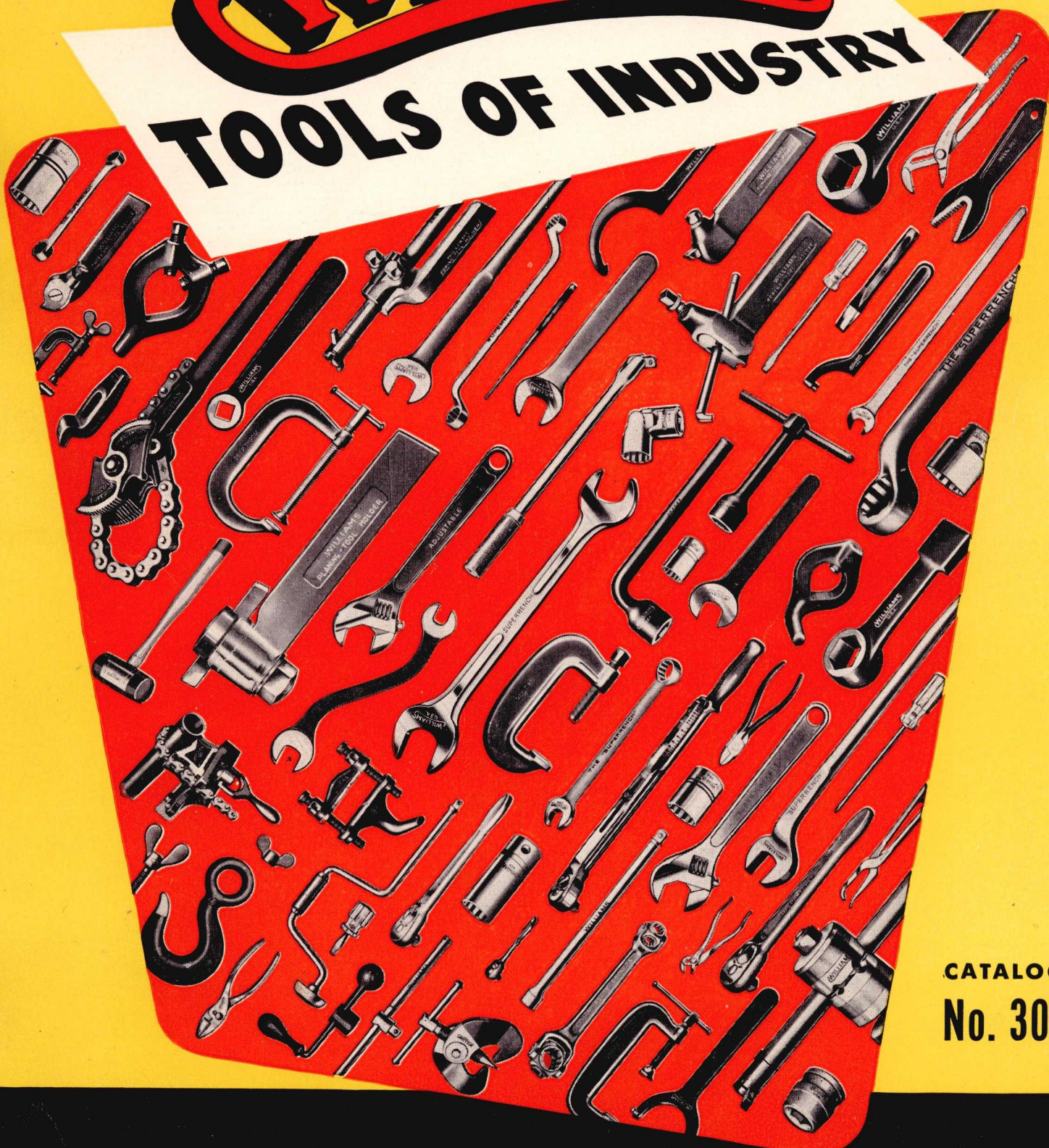


WILLIAMS

TOOLS OF INDUSTRY



CATALOG
No. 301

THE BROADEST LINE OF ITS KIND

J. H. WILLIAMS & CO., BUFFALO 7, NEW YORK

WILLIAMS

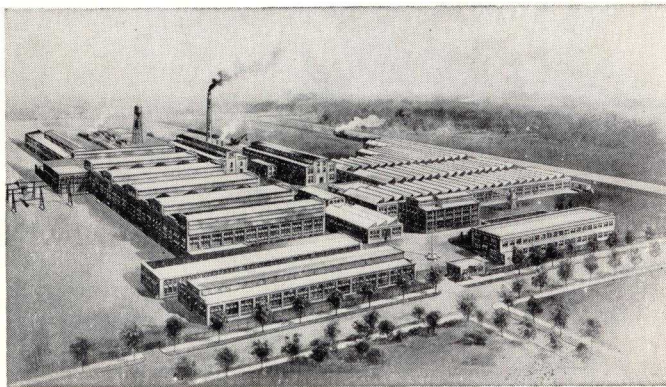
DROP-FORGINGS and DROP-FORGED TOOLS

GENERAL OFFICES AND FACTORY

400 Vulcan Street
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J. H. WILLIAMS & CO.

ESTABLISHED 1882—INCORPORATED JULY 1, 1895

Catalog No. 301

NOTICE - Finishes, materials and designs are subject to change without notice or regard to catalog descriptions.

Industrial Edition

Industrial Catalogs 201 and 301 supersede all previous issues, which are hereby withdrawn. A separate Catalog covering additional Automotive Service tools is available on request. All Prices are subject to change without notice.

Cuts Illustrating Our Goods

Furnished to customers; if desired, we will edit copy for printer and check proof.

Dimensions

Unless otherwise stated, all dimensions are in inches.

Electric Welding

We are prepared to electric-weld rounds up to and including 1-1/8 inch diameter; by this means we can supply several of our stock specialties, such as Rod Ends, with shanks of any reasonable length.

Heat-treating, Annealing, Tempering and Case-hardening Done to Order

We have ample facilities for handling work of this class and solicit inquiries therefor.

Chemical Analyses and Physical Tests

Our laboratories are thoroughly equipped and we offer their services for such analyzing as may be required.

Estimates for Special Forgings

Furnished on receipt of model or drawing and specifications, including quantity.

Dies for Special Forgings

Charges for Dies and Tools include only a portion of their cost. We assume the risk of breakage and the expense of repair and maintenance. Tools are fitted to our equipment and are not subject to surrender. When inactive for three years after date of last order, they may be discarded at our option, without further notice.

Guarantee


We guarantee all our product, whether Standard Stock goods, as described in this catalog, or Special Forgings made to order, to be free from imperfections of workmanship and material.

Cable Address:

"WILLRICH, BUFFALO NY"

Codes: Western Union, Lieber's Standard, Lieber's 5 Letter, "ABC" 5th Edition, Bentley's.

We are the sole makers of the following brands of drop-forged products:

VULCAN SUPERRENCH SUPERSOCKET		AGRIPPA SUPERECTOR SUPERJUSTABLE
WILLIAMS		

J. H. Williams & Co., originated the first uniform line of fifteen-degree angle Wrenches, since generally adopted.

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WILLIAMS'
♦“SUPERIOR” ENGINEERS’ WRENCHES
 Carbon Steel—15° Angle, Single Head



For Standard Nuts and Cap Screws

Milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

Wrenches with handle tapered will be furnished for the larger sizes, beginning with No. 11.

Handles can be bent above heads at angles of 45° to 90° from opening, at an additional charge.

Supplied in Whitworth Standard and Metric Measure; see page 63.

The following Wrenches have hole of diameter given below in end of handle:

No. 17 17A 18 18A 19 19A 19B 19C 20 20A 20B 21A 21B 21C 22A 22B
 Hole $\frac{3}{8}$ $\frac{3}{8}$ $\frac{3}{4}$ $\frac{3}{4}$ $\frac{7}{8}$ $\frac{7}{8}$ $\frac{7}{8}$ $\frac{7}{8}$ 1 1 1 $1\frac{1}{8}$ $1\frac{1}{8}$ $1\frac{1}{8}$ $1\frac{1}{4}$ $1\frac{1}{4}$

No.	Nominal Opening	Amer. Std. Heavy Nut (U.S.S.); Size Bolt	Amer. Std. Hex Head Cap Screw; Diam. Screw	Amer. Std. Light Nut (S.A.E.); Size Bolt	Amer. Std. Regular Nut; Size Bolt	Ex-treme Length, Approx.	Weight Each, Lbs.
S 000	3/16				*Nos. 2 & 3	2 1/2	.03
S 00	1/4				*No. 4	2 7/8	.05
00	5/16	1/8	1/8		*Nos. 5 & 6	3 5/8	.06
700	3/8		3/16		*No. 10	4 1/8	.09
0	13/32	3/16				4 1/8	.08
701	7/16		1/4	1/4	1/4 & No. 12	4 3/4	.13
1	1/2	1/4	5/16	5/16		4 3/4	.13
702	9/16		3/8	3/8	5/16	5 5/8	.20
2	19/32	5/16				5 5/8	.20
703	5/8		7/16	7/16	3/8	6 1/2	.33
3	11/16	3/8				6 1/2	.33
704	3/4		1/2	1/2	7/16	7 3/8	.44
4	25/32	7/16				7 3/8	.42
705	13/16		9/16		1/2	8 3/8	.64
5	7/8	1/2	5/8	9/16	9/16	8 3/8	.61
6	15/16	9/16		5/8		9 1/2	.91
706	1		3/4		5/8	9 1/2	.89
7	1 1/16	5/8		3/4		10 3/4	1.3
707	1 1/8		7/8		3/4	10 3/4	1.4
8	1 1/4	3/4	(†1)	7/8		12 1/4	2.1
8A	1 5/16		1	7/8		12 1/4	2.1
708A	1 3/8		(†1 1/8)			12 1/4	2.
9	1 7/16	7/8		1		13 7/8	2.7
709	1 1/2		1 1/8 (†1 1/4)		1	13 7/8	2.7
10	1 5/8	1		1 1/8		15 1/2	3.5
10A	1 11/16		1 1/4		1 1/8	15 1/2	3.5
11	1 13/16	1 1/8		1 1/4		17 1/8	4.6
11A	1 7/8			1 1/4		17 1/8	4.5
12	2	1 1/4		1 3/8		18 7/8	5.8
12A	2 1/16			1 3/8		18 7/8	5.8
13	2 3/16	1 3/8		1 1/2		20 3/4	7.2
13A	2 1/4			1 1/2		20 3/4	7.2
14	2 3/8	1 1/2				22 3/4	10.
14A	2 7/16			1 5/8		22 3/4	9.6
15	2 9/16	1 5/8				24	11.1
15A	2 5/8			1 3/4		24	11.2
16	2 3/4	1 3/4				27	13.6
16B	2 13/16			1 7/8		27	13.9
16A	2 15/16	1 7/8				27	13.7
17A	3			2		30	18.9
17	3 1/8	2				30	18.9
18A	3 3/8			2 1/4		34	28.1
18	3 1/2	2 1/4				34	26.5
19B	3 3/4			2 1/2		38	33.1
19	3 7/8	2 1/2				38	33.3
19C	4 1/8			2 3/4		38	31.5
19A	4 1/4	2 3/4				38	32.3
20B	4 1/2			3		42	50.5
20	4 5/8	3				42	50.5
20A	5	3 1/4				42	50.4
21A	5 3/8	3 1/2				47	90.5
21B	5 3/4	3 3/4				47	90.5
21C	6 1/8	4				47	85.
22A	6 7/8	4 1/2				52	156.
22B	7 5/8	5				52	149.

† Old style cap screw—now obsolete.

* Amer. Std. Machine-Screw and Stove-Bolt Nuts.

See page 68 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.

WILLIAMS'
♦“SUPERIOR” ENGINEERS’ WRENCHES
 Carbon Steel—15° Angle, Double Head



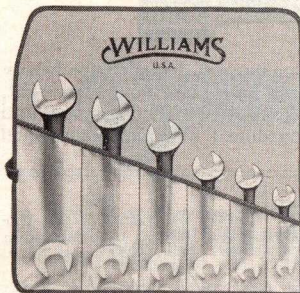
Wrenches are milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

Supplied in Whitworth Standard and Metric Measure; see page 63.

No.	Nominal Openings	Amer. Std. Heavy Nuts; (U.S.S.); Size Bolts	Amer. Std. Hex Hd. Cap Screws; Diam. Screws	Amer. Std. Light Nuts (S.A.E.); Size Bolts	Amer. Std. Regular Nuts; Size Bolts	Ex- treme Length, Approx.	Weight Each, Lbs.
721	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{1}{8}$ & $\frac{3}{16}$	$\frac{1}{8}$ & $\frac{3}{16}$		4 $\frac{1}{8}$	.08
21	$\frac{1}{8}$ & $\frac{1}{16}$	$\frac{1}{8}$ & $\frac{3}{16}$			4 $\frac{1}{8}$	.08
722	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{1}{8}$ & $\frac{1}{4}$	$\frac{1}{4}$		4 $\frac{1}{2}$	.11
723	$\frac{5}{16}$ & $\frac{3}{8}$	$\frac{3}{16}$ & $\frac{1}{4}$	$\frac{1}{4}$		4 $\frac{1}{2}$	.11
723A	$\frac{13}{32}$ & $\frac{1}{2}$	$\frac{3}{16}$ & $\frac{1}{4}$	$\frac{1}{4}$		4 $\frac{1}{2}$	.15
23	$\frac{13}{32}$ & $\frac{1}{2}$	$\frac{3}{16}$ & $\frac{1}{4}$	$\frac{1}{4}$		4 $\frac{1}{2}$	.15
24	$\frac{13}{32}$ & $\frac{1}{2}$	$\frac{3}{16}$ & $\frac{5}{16}$	$\frac{5}{16}$		5 $\frac{1}{4}$	.15
725	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{1}{4}$ & $\frac{5}{16}$	$\frac{1}{4}$ & $\frac{5}{16}$	$\frac{1}{4}$ & $\frac{5}{16}$	5 $\frac{1}{4}$	.17
725A	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{1}{4}$ & $\frac{5}{16}$	$\frac{1}{4}$ & $\frac{5}{16}$	$\frac{1}{4}$ & $\frac{5}{16}$	5 $\frac{1}{4}$	.17
25B	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{1}{4}$ & $\frac{5}{16}$	$\frac{1}{4}$ & $\frac{5}{16}$	$\frac{1}{4}$ & $\frac{5}{16}$	5 $\frac{3}{4}$	.17
726	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{4}$ & $\frac{5}{16}$	$\frac{1}{4}$ & $\frac{5}{16}$		6 $\frac{1}{4}$	.22
26	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{4}$ & $\frac{5}{16}$	$\frac{1}{4}$ & $\frac{5}{16}$		6 $\frac{1}{4}$	.30
727	$\frac{9}{16}$ & $\frac{1}{2}$	$\frac{3}{8}$ & $\frac{7}{16}$	$\frac{3}{8}$ & $\frac{7}{16}$	$\frac{3}{8}$ & $\frac{7}{16}$	6 $\frac{1}{4}$	.30
27C	$\frac{9}{16}$ & $\frac{1}{2}$	$\frac{3}{8}$ & $\frac{7}{16}$	$\frac{3}{8}$ & $\frac{7}{16}$	$\frac{3}{8}$ & $\frac{7}{16}$	6 $\frac{1}{2}$	.25
27	$\frac{9}{16}$ & $\frac{1}{2}$	$\frac{3}{8}$ & $\frac{7}{16}$	$\frac{3}{8}$ & $\frac{7}{16}$	$\frac{3}{8}$ & $\frac{7}{16}$	6 $\frac{1}{2}$	.34
27B	$\frac{9}{16}$ & $\frac{1}{2}$	$\frac{3}{8}$ & $\frac{7}{16}$	$\frac{3}{8}$ & $\frac{7}{16}$	$\frac{3}{8}$ & $\frac{7}{16}$	6 $\frac{3}{4}$	.33
728	$\frac{5}{8}$ & $\frac{1}{2}$	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{7}{16}$ & $\frac{1}{2}$	7 $\frac{1}{4}$	.40
28	$\frac{5}{8}$ & $\frac{1}{2}$	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{7}{16}$ & $\frac{1}{2}$	7 $\frac{1}{4}$	.42
28S	$\frac{5}{8}$ & $\frac{1}{2}$	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{7}{16}$ & $\frac{1}{2}$	7 $\frac{1}{4}$	.40
729	$\frac{11}{16}$ & $\frac{1}{2}$	$\frac{3}{8}$ & $\frac{1}{2}$	$\frac{3}{8}$ & $\frac{1}{2}$	$\frac{3}{8}$ & $\frac{1}{2}$	7 $\frac{1}{4}$	.39
29B	$\frac{11}{16}$ & $\frac{1}{2}$	$\frac{3}{8}$ & $\frac{1}{2}$	$\frac{3}{8}$ & $\frac{1}{2}$	$\frac{3}{8}$ & $\frac{1}{2}$	7 $\frac{7}{8}$	.48
29	$\frac{11}{16}$ & $\frac{1}{2}$	$\frac{3}{8}$ & $\frac{1}{2}$	$\frac{3}{8}$ & $\frac{1}{2}$	$\frac{3}{8}$ & $\frac{1}{2}$	7 $\frac{7}{8}$	.48
29C	$\frac{11}{16}$ & $\frac{1}{2}$	$\frac{3}{8}$ & $\frac{1}{2}$	$\frac{3}{8}$ & $\frac{1}{2}$	$\frac{3}{8}$ & $\frac{1}{2}$	7 $\frac{7}{8}$	.47
730	$\frac{5}{8}$ & $\frac{1}{2}$	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{3}{8}$ & $\frac{1}{2}$	8 $\frac{1}{2}$	.61
30	$\frac{5}{8}$ & $\frac{1}{2}$	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{3}{8}$ & $\frac{1}{2}$	8 $\frac{1}{2}$	.75
731	$\frac{3}{4}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{5}{8}$	$\frac{1}{2}$ & $\frac{5}{8}$	$\frac{7}{16}$ & $\frac{1}{2}$	9 $\frac{1}{8}$	.61
731A	$\frac{3}{4}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{5}{8}$	$\frac{1}{2}$ & $\frac{5}{8}$	$\frac{7}{16}$ & $\frac{1}{2}$	9 $\frac{1}{8}$	.75
31B	$\frac{23}{32}$ & $\frac{1}{2}$	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{5}{8}$	9 $\frac{1}{8}$	.73
31	$\frac{23}{32}$ & $\frac{1}{2}$	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{7}{16}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{5}{8}$	9 $\frac{1}{8}$	.70
731B	$\frac{13}{16}$ & $\frac{1}{2}$	$\frac{9}{16}$ & $\frac{5}{8}$	$\frac{9}{16}$ & $\frac{5}{8}$	$\frac{1}{2}$ & $\frac{5}{8}$	9 $\frac{1}{8}$	.75
32B	$\frac{13}{16}$ & $\frac{1}{2}$	$\frac{9}{16}$ & $\frac{5}{8}$	$\frac{9}{16}$ & $\frac{5}{8}$	$\frac{1}{2}$ & $\frac{5}{8}$	10	.98	
33A	$\frac{7}{8}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{5}{8}$	$\frac{1}{2}$ & $\frac{5}{8}$	$\frac{9}{16}$ & $\frac{5}{8}$	10	.98	
733	$\frac{7}{8}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{5}{8}$	$\frac{1}{2}$ & $\frac{5}{8}$	$\frac{9}{16}$ & $\frac{5}{8}$	10	.97	
33C	$\frac{15}{16}$ & $\frac{1}{2}$	$\frac{9}{16}$ & $\frac{5}{8}$	$\frac{9}{16}$ & $\frac{5}{8}$	$\frac{9}{16}$ & $\frac{5}{8}$	10	.97	
34	$\frac{7}{8}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{5}{8}$	$\frac{1}{2}$ & $\frac{5}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	11	1.3	
34A	$\frac{7}{8}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{5}{8}$	$\frac{1}{2}$ & $\frac{5}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	11	1.3	
35	$\frac{31}{32}$ & $\frac{1}{2}$	$\frac{9}{16}$ & $\frac{5}{8}$	$\frac{9}{16}$ & $\frac{5}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	11	1.4	
735	1 & $\frac{1}{16}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	11	.88	
36B	1 & $\frac{1}{16}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	12 $\frac{3}{8}$	2.	
37	1 & $\frac{1}{16}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	12 $\frac{3}{8}$	1.9	
737	1 & $\frac{1}{16}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	12 $\frac{3}{8}$	2.	
37A	1 & $\frac{1}{16}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	12 $\frac{3}{8}$	1.9	
39B	1 $\frac{1}{4}$ & $\frac{1}{2}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	14	2.8	
39	1 $\frac{1}{4}$ & $\frac{1}{2}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	14	2.8	
39A	1 $\frac{1}{4}$ & $\frac{1}{2}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	14	2.7	
39C	1 $\frac{1}{4}$ & $\frac{1}{2}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	14	2.5	
40	1 $\frac{1}{4}$ & $\frac{1}{2}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	$\frac{3}{4}$ & $\frac{7}{8}$	15 $\frac{3}{4}$	3.7	
41	1 $\frac{1}{2}$ & $\frac{1}{2}$	$\frac{7}{8}$ & $\frac{1}{2}$	$\frac{7}{8}$ & $\frac{1}{2}$	$\frac{7}{8}$ & $\frac{1}{2}$	15 $\frac{3}{4}$	3.8	
41B	1 $\frac{1}{2}$ & $\frac{1}{2}$	$\frac{7}{8}$ & $\frac{1}{2}$	$\frac{7}{8}$ & $\frac{1}{2}$	$\frac{7}{8}$ & $\frac{1}{2}$	17	5.5	
42	1 $\frac{1}{2}$ & $\frac{1}{2}$	$\frac{7}{8}$ & $\frac{1}{2}$	$\frac{7}{8}$ & $\frac{1}{2}$	$\frac{7}{8}$ & $\frac{1}{2}$	17	5.8	
42A	1 $\frac{1}{2}$ & $\frac{1}{2}$	$\frac{7}{8}$ & $\frac{1}{2}$	$\frac{7}{8}$ & $\frac{1}{2}$	$\frac{7}{8}$ & $\frac{1}{2}$	19	7.8	
43	1 $\frac{5}{8}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	19	7.3	
44	1 $\frac{5}{8}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	19	7.1	
44A	1 $\frac{5}{8}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	19	6.7	
45	1 $\frac{7}{8}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	21	9.3	
45A	1 $\frac{7}{8}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	21	9.3	
47	1 $\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	23	13.	
47B	1 $\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	23	11.9	
48	1 $\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	23	12.2	
49	1 $\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	25	13.3	
49A	1 $\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	25	13.3	
51	1 $\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	27	16.7	
51A	1 $\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	27	16.5	
53	1 $\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	30	23.8	
53A	1 $\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	32	25.	
54C	1 $\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	32	25.	
55A	1 $\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	36	36.	
55B	1 $\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	$\frac{1}{2}$ & $\frac{1}{2}$	36	37.	
57B	3 & $\frac{1}{8}$	2 & $\frac{1}{4}$	2 & $\frac{1}{4}$	2 & $\frac{1}{4}$	38	48.5	
57	3 & $\frac{1}{8}$	2 & $\frac{1}{4}$	2 & $\frac{1}{4}$	2 & $\frac{1}{4}$	38	46.	
58A	3 & $\frac{1}{8}$	2 & $\frac{1}{4}$	2 & $\frac{1}{4}$	2 & $\frac{1}{4}$	40	48.	
58	3 & $\frac{1}{8}$	2 & $\frac{1}{4}$	2 & $\frac{1}{4}$	2 & $\frac{1}{4}$	40	48.	
60A	3 & $\frac{1}{8}$	2 & $\frac{1}{4}$	2 & $\frac{1}{4}$	2 & $\frac{1}{4}$	43	67.	
60	3 & $\frac{1}{8}$	2 & $\frac{1}{4}$	2 & $\frac{1}{4}$	2 & $\frac{1}{4}$	43	67.	
62A	4 & $\frac{1}{4}$	3 & $\frac{1}{4}$	3 & $\frac{1}{4}$	3 & $\frac{1}{4}$	47	76.	
62	4 & $\frac{1}{4}$	3 & $\frac{1}{4}$	3 & $\frac{1}{4}$	3 & $\frac{1}{4}$	47	118.	
63A	4 & $\frac{1}{4}$	3 & $\frac{1}{4}$	3 & $\frac{1}{4}$	3 & $\frac{1}{4}$	47		
64A	5 & $\frac{3}{8}$	3 & $\frac{1}{4}$	3 & $\frac{1}{4}$	3 & $\frac{1}{4}$	47		

WILLIAMS' ♦ "SUPERIOR" ENGINEERS' WRENCHES

Carbon Steel—15° Angle, Double Head



SET No. 25A

In Leatherette Roll
In Cardboard Box

Weight, 3.3 lbs.

CONTENTS

One each Nos. 723, 25, 727, 29, 731A and 33C with all popular openings 3/8" to 1".

SET No. 10A

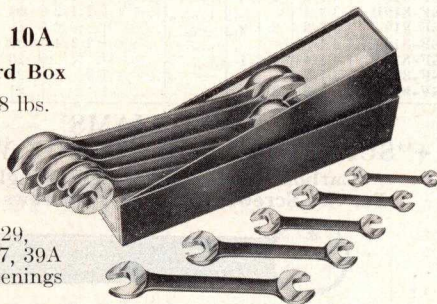
In Cardboard Box

Weight, 11.8 lbs.

CONTENTS

One each Nos.

723, 25, 727, 29, 731, 33A, 735, 37, 39A and 39C with openings 3/8" to 1-7/16".



WILLIAMS' ♦ "SUPERIOR" CHECK NUT or "THIN" WRENCHES

Carbon Steel—15° Angle, Single Head

For Check, Jam, or Lock Nuts, etc.



This class of Wrench is guaranteed amply strong for its intended purpose, but is not designed for severe service. These Wrenches are milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright. Supplied in Whitworth Standard and Metric Measure; see page 64.

No.	Nominal Opening	Amer. Std. Heavy Jam Nut (U.S.S.); Size Bolt	Amer. Std. Light Nut (S.A.E.); Size Bolt	Amer. Std. Regular Jam Nut; Size Bolt	Extreme Length, Approx.	Thick-ness Head	Wgt. Each, Lbs.
601A	7/16	.....	1/4	1/4	4	5/32	.08
601	1/2	1/4	5/16	5/16	4	5/32	.08
602A	9/16	.....	3/8	3/8	4 1/2	11/64	.12
602	19/32	5/16	.....	.....	4 1/2	11/64	.12
603A	5/8	.....	7/16	3/8	5 1/8	3/16	.16
603	11/16	3/8	.....	.....	5 1/8	3/16	.16
604A	3/4	.....	1/2	7/16	5 7/8	7/32	.23
604	25/32	7/16	.....	.....	5 7/8	7/32	.23
605A	13/16	.....	.....	1/2	6 5/8	1/4	.33
605	7/8	1/2	9/16	9/16	6 5/8	1/4	.33
606	15/16	9/16	5/8	.....	7 1/2	9/32	.48
606B	1	.....	5/8	.....	7 1/2	9/32	.48
607	1 1/16	5/8	3/4	.....	8 1/2	5/16	.66
607A	1 1/8	.....	.....	3/4	8 1/2	5/16	.66
608	1 1/4	3/4	7/8	.....	10	3/8	1.1
608A	1 5/16	.....	.....	7/8	10	3/8	1.1
609	1 7/16	7/8	1	.....	11 5/8	7/16	1.6
609A	1 1/2	.....	.....	1	11 5/8	7/16	1.6
610	1 5/8	1	1 1/8	.....	13 1/4	1/2	2.5
610A	1 11/16	.....	.....	1 1/8	13 1/4	1/2	2.5

♦ REGISTERED TRADE MARK

WILLIAMS' ♦ "SUPERIOR" CHECK NUT or "THIN WRENCHES"

Carbon Steel—15° Angle, Double Head
For Check, Jam, or Lock Nuts, etc.



For description, see opposite column. Whitworth and Metric sizes, see page 64.

No.	Nominal Openings	Amer. Std. Heavy Jam Nut (U.S.S.); Size Bolts	Amer. Std. Light Nut (S.A.E.); Size Bolts	Amer. Std. Regular Jam Nut; Size Bolts	Extreme Length, Approx.	Thick-ness Heads	Wgt. Each, Lbs.
623	13/32 & 1/2	5/16 & 1/4	.....	.....	4 5/8	5/32	.13
623D	7/16 & 1/2	1/4 & 5/16	1/4 & 5/16	.....	4 5/8	5/32	.08
624A	7/16 & 9/16	1/4 & 5/8	1/4 & 5/8	.....	4 3/4	5/32	.11
624B	1/2 & 5/8	5/16 & 3/8	5/16 & 3/8	.....	4 3/4	5/32	.11
625	1/2 & 19/32	5/16 & 3/8	5/16 & 3/8	.....	4 3/4	5/32	.11
626S	1/2 & 1 1/8	5/8 & 7/16	5/8 & 7/16	.....	6	5/16	.17
627	19/32 & 1 1/4	7/8 & 1	7/8 & 1	.....	6	5/16	.19
629D	5/8 & 1 1/2	1 & 1 1/8	1 & 1 1/8	.....	6 3/4	5/16	.23
629	11/16 & 1 1/4	3/4 & 1 1/8	3/4 & 1 1/8	.....	6 3/4	5/16	.23
630	11/16 & 1 1/2	3/4 & 1 1/4	3/4 & 1 1/4	.....	7 1/2	5/16	.36
630B	3/4 & 1 1/4	1/2 & 5/8	1/2 & 5/8	.....	7 1/2	5/16	.33
630E	3/4 & 1 1/2	1/2 & 5/8	1/2 & 5/8	.....	7 1/2	5/16	.33
631	25/32 & 1 1/2	7/8 & 1 1/8	7/8 & 1 1/8	.....	7 1/2	5/16	.34
631A	13/16 & 1 1/4	1/2 & 5/8	1/2 & 5/8	.....	7 1/2	5/16	.34
632C	7/8 & 1 1/4	1/2 & 5/8	1/2 & 5/8	.....	8 3/4	5/16	.36
634A	7/8 & 1 1/2	1/2 & 5/8	1/2 & 5/8	.....	8 3/8	5/16	.59
634	15/16 & 1 1/4	1/2 & 5/8	1/2 & 5/8	.....	8 3/8	5/16	.54
634B	15/16 & 1 1/2	1/2 & 5/8	1/2 & 5/8	.....	8 3/8	5/16	.57
635D	1 1/16 & 1 1/4	5/8 & 3/4	5/8 & 3/4	.....	8 3/8	5/16	.59
637	1 1/8 & 1 1/2	3/4 & 1	3/4 & 1	.....	10 1/2	5/8	.95
637A	1 1/16 & 1 1/4	3/4 & 1	3/4 & 1	.....	10 1/2	5/8	.89
639	1 1/8 & 1 1/2	3/4 & 1	3/4 & 1	.....	10 1/2	5/8	.89
640	1 1/4 & 1 1/2	3/4 & 1	3/4 & 1	.....	12 1/2	5/8	1.7
640A	1 5/16 & 1 1/2	3/4 & 1	3/4 & 1	.....	12 1/2	5/8	1.6

WILLIAMS' ♦ "SUPERIOR" HEX-BOX WRENCHES

Carbon Steel—Heavy Pattern—15° Angle



These Wrenches are broached, surface and edges smooth, sizes stamped, hardened and black enameled (baked on)—heads bright.

Designed for use requiring an exceedingly strong tool and where head clearance is limited. Two Patterns—Regular for general work, Heavy for severe service. Wrenches larger than No. H809 have tapered handle.

These Wrenches can also be furnished, to order, with 12-point openings.

Handle can be bent above head at angles of 45° to 90° from opening, at an additional charge.

No.	Nominal Opening Across Flats	Amer. Std. Heavy Nut (U.S.S.)	Amer. Std. Hex Head Cap Screw	Amer. Std. Light Nut (S.A.E.)	Amer. Std. Regular Nut	Ex-treme Length, Approx.	Head		Wgt. Each, Lbs.
							Thick-ness	Out-side Diam.	
H808	1 1/4	3/4	.....	7/8	.....	11 1/2	13/16	2 1/16	1.6
H808A	1 5/16	1	.....	7/8	.....	11 1/2	13/16	2 1/16	1.6
H809	1 7/16	7/8	1	.....	.....	13 3/8	15/16	2 3/8	2.5
H809A	1 1/2	1 1/8	1	.....	.....	13 3/8	15/16	2 3/8	2.5
H810	1 5/8	1	1 1/8	.....	.....	15 1/4	1 1/8	2 5/8	3.1
H810A	1 11/16	1 1/4	1 1/8	.....	.....	15 1/4	1 1/8	2 5/8	3.1
H811	1 13/16	1 1/8	.....	1 1/4	.....	17	1 1/4	2 15/16	3.8
H811A	1 7/8	.....	.....	1 1/4	.....	17	1 1/4	2 15/16	3.8
H812	2	1 1/4	.....	1 3/8	.....	19	1 3/8	3 1/4	5.2
H813	2 3/16	1 3/8	.....	1 1/2	.....	21	1 1/2	3 1/2	6.5
H813A	2 1/4	.....	.....	1 1/2	.....	21	1 1/2	3 1/2	6.5
H814	2 3/8	1 1/2	.....	.....	.....	23	1 5/8	3 3/4	6.3
H815	2 9/16	1 5/8	.....	.....	.....	25	1 3/4	4 1/8	10.3
H815A	2 5/8	.....	.....	.....	.....	25	1 3/4	4 1/8	10.3
H816	2 3/4	1 3/4	.....	.....	.....	27	2	4 9/16	13.8
H817A	3	.....	.....	.....	.....	30	2	4 13/16	17.9
H817	3 1/8	2	.....	.....	.....	30	2	4 13/16	17.9

WILLIAMS' ♦“SUPERIOR” HEX-BOX WRENCHES

Carbon Steel—REGULAR PATTERN—15° Angle



These Wrenches are broached, surface and edges smooth, sizes stamped, hardened and black enameled (baked on)—heads bright.

Designed for use requiring an exceedingly strong tool and where head clearance is limited. Two Patterns—Regular for general work, Heavy for severe service. Wrenches larger than No. 810 have tapered handle.

These Wrenches can also be furnished, to order, with 12-point openings.

For Whitworth Standard sizes see page 64.

Handle can be bent above head at angles of 45° to 90° from opening, at an additional charge.

The following long Wrenches have hole of size given below in end of handle:

No. 817 817A 818 818A 819 819A 819AC 819B 820 820B
Hole 5/8 5/8 3/4 3/4 7/8 7/8 7/8 7/8 1 1"

No.	Nominal Opening Across Flats	Amer. Std. Heavy Nut (USS)	Amer. Std. Hex Hd. Cap Screw	Amer. Std. Light Nut (SAE)	Amer. Std. Reglr. Nut	Ex-treme Length, Approx.	Head		Wgt. Each, Lbs.
							Thick-ness	Out-side Diam.	
800	13/32	3/16	3/16	.....	.....	3 1/2	7/32	45/64	.08
801A	7/16	.....	1/4	1/4	1/4	4	17/64	27/32	.11
801	1/2	1/4	5/16	.....	.....	4	17/64	27/32	.11
802A	9/16	.....	3/8	3/8	5/16	4 7/8	5/16	63/64	.17
802	19/32	5/16	.....	4 7/8	5/16	63/64	5/16	63/64	.17
803A	5/8	.....	7/16	7/16	3/8	5 7/8	23/64	1 9/64	.25
803	11/16	3/8	.....	5 7/8	5/8	5 7/8	23/64	1 9/64	.25
804A	3/4	.....	1/2	1/2	7/16	6 7/8	13/32	1 9/32	.38
804	25/32	7/16	.....	6 7/8	13/32	1 9/32	13/32	1 9/32	.38
805A	13/16	.....	9/16	.....	1/2	7 3/4	29/64	1 27/64	.52
805	7/8	1/2	5/8	9/16	9/16	7 3/4	29/64	1 27/64	.52
806	15/16	9/16	.....	5/8	8 3/4	1/2	1 19/32	.69	
806B	1	3/4	.....	5/8	8 3/4	1/2	1 19/32	.69	
807	1 1/16	5/8	.....	3/4	9 7/8	9/16	1 25/32	.95	
807A	1 1/8	.....	7/8	.....	3/4	9 7/8	9/16	1 25/32	.95
808	1 1/4	3/4	.....	7/8	11 1/2	9/16	2 1/16	1.4	
808A	1 5/16	.....	1	7/8	11 1/2	9/16	2 1/16	1.4	
809	1 7/16	7/8	.....	1	13 3/8	21/32	2 3/8	2.	
809A	1 1/2	.....	1 1/8	.....	1	13 3/8	21/32	2 3/8	2.
810	1 5/8	1	.....	1 1/8	15 1/4	3/4	2 5/8	2.9	
810A	1 11/16	.....	1 1/4	.....	15 1/4	3/4	2 5/8	2.9	
811	1 13/16	1 1/8	.....	1 1/4	17 1/8	13/16	2 29/32	3.1	
811A	1 7/8	.....	.....	1 1/4	17 1/8	13/16	2 29/32	3.1	
812	2	1 1/4	.....	1 3/8	.....	19	15/16	3 1/4	4.3
813	2 3/16	1 3/8	.....	1 1/2	.....	21	1	3 31/64	5.8
813A	2 1/4	.....	.....	1 1/2	.....	21	1	3 31/64	5.8
814	2 3/8	1 1/2	.....	.....	23	1 1/16	3 23/32	7.3	
815	2 9/16	1 5/8	.....	.....	25	1 1/8	4 3/32	8.9	
815A	2 5/8	.....	.....	1 3/4	25	1 1/8	4 3/32	8.9	
816	2 3/4	1 3/4	.....	.....	27	1 1/4	4 9/16	11.9	
817A	3	.....	.....	2	30	1 3/8	4 53/64	16.2	
817	3 1/8	2	.....	.....	30	1 3/8	4 53/64	16.2	
818A	3 3/8	.....	.....	2 1/4	34	1 1/2	5 1/4	20.3	
818	3 1/2	2 1/4	.....	.....	34	1 1/2	5 1/4	20.3	
819B	3 3/4	.....	.....	2 1/2	38	1 5/8	5 7/8	24.6	
819	3 7/8	2 1/2	.....	.....	38	1 5/8	5 7/8	24.5	
819AC	4 1/8	.....	.....	2 3/4	42	1 3/4	6 1/2	34.8	
819A	4 1/4	2 3/4	.....	.....	42	1 3/4	6 1/2	34.5	
820B	4 1/2	.....	.....	3	46	1 7/8	7	41.5	
820	4 5/8	3	.....	.....	46	1 7/8	7	41.5	

♦ REGISTERED TRADE MARK

See page 68 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.

WILLIAMS' ♦“SUPERIOR” HEX-BOX WRENCHES Carbon Steel—STRIKING FACE PATTERN—15° Angle

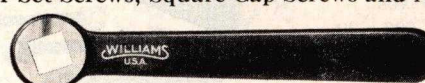


These Striking Face Box Wrenches are designed for heavy work in close quarters where large nuts must be set up tight, or frozen nuts loosened. Wrenches are broached, surface and edges smooth, sizes stamped, hardened and black enameled (baked on)—heads bright.

No.	Nominal Opening Across Flats	Amer. Std. Heavy Nut (USS)	Amer. Std. Hex Hd. Cap Screw	Amer. Std. Light Nut (SAE)	Amer. Std. Reglr. Nut	Ex-treme Length, Approx.	Head		Wgt. Each, Lbs.
							Thick-ness	Out-side Dia.	
SF-818A	3 3/8	.....	.....	.....	2 1/4	18	1 1/2	5 1/4	19.3
SF-818	3 1/2	2 1/4	.....	.....	.....	18	1 1/2	5 1/4	18.8
SF-819B	3 3/4	.....	.....	.....	2 1/2	19	1 5/8	5 7/8	23.6
SF-819	3 7/8	2 1/2	.....	.....	.....	19	1 5/8	5 7/8	23.6
SF-819AC	4 1/8	.....	.....	.....	2 3/4	20	1 3/4	6 1/2	25.3
SF-819A	4 1/4	2 3/4	.....	.....	.....	20	1 3/4	6 1/2	25.3
SF-820B	4 1/2	.....	.....	.....	3	21	1 7/8	7	29.5
SF-820	4 5/8	3	.....	.....	.....	21	1 7/8	7	29.5

WILLIAMS' ♦“SUPERIOR” SQUARE BOX WRENCHES

Carbon Steel—22½° Angle, Single Head
For Set Screws, Square Cap Screws and Nuts

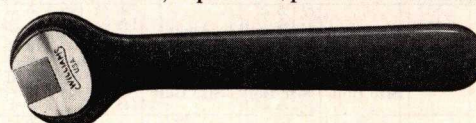


These Wrenches are broached, surface and edges smooth, sizes stamped, hardened and black enameled (baked on)—heads bright. These Wrenches can also be furnished, to order, with 8-point openings.

No.	Nominal Opening	For Set Screw; Size	For Square Head Cap Screw	Amer. Std. Reglr. Square Nut	Ex-treme Length, Approx.	Head		Wgt. Each, Lbs.
						Thick-ness	Out-side Diam.	
580	3/16	3/16	.....	.....	3	1/4	1/2	.05
581	1/4	1/4	.....	.....	3 3/8	9/32	5/8	.08
582	5/16	5/16	.....	.....	3 3/4	5/16	11/16	.11
583	3/8	3/8	1/4	.....	4 1/4	3/8	27/32	.17
584	7/16	7/16	5/16	1/4	4 7/8	7/16	31/32	.25
585	1/2	1/2	3/8	.....	5 1/2	15/32	1 1/16	.33
586	9/16	9/16	7/16	5/16	6 1/4	1/2	1 3/16	.42
587	5/8	5/8	1/2	3/8	7	9/16	1 5/16	.61
588	3/4	3/4	5/8	7/16	8	5/8	1 9/16	.83
589	7/8	7/8	3/4	9/16	9	11/16	1 25/32	1.2
590	1	1	.....	5/8	10	3/4	2	1.6

WILLIAMS' ♦“SUPERIOR” SET SCREW WRENCHES

Carbon Steel—22½° Angle, Single Head
For Set Screws, Square Cap Screws and Nuts

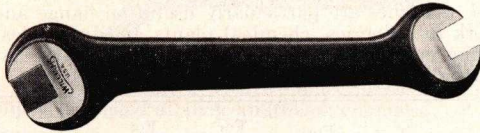


These Wrenches are milled, surface and edges smooth, sizes stamped on heads, hardened, black enameled (baked on)—heads bright.

No.	Nominal Opening	For Set Screw; Size	For Square Head Cap Screw	For Amer. Std. Regular Square Nut	Ex-treme Length, Approx.	Thick-ness Head	Weight Each, Lbs.
500	3/16	3/16	.....	.....	3	3/16	.04
501	1/4	1/4	.....	.....	3 1/2	1/4	.09
502	5/16	5/16	.....	.....	4 1/4	5/16	.16
503	3/8	3/8	1/4	.....	5	11/32	.25
504	7/16	7/16	5/16	1/4	5 3/4	3/8	.36
505	1/2	1/2	3/8	.....	6 5/8	7/16	.50
506	9/16	9/16	7/16	5/16	7 1/2	1/2	.75
507	5/8	5/8	1/2	3/8	8 1/2	9/16	.89
508	3/4	3/4	5/8	7/16	9 1/2	5/8	1.3
509	7/8	7/8	3/4	9/16	10 1/2	11/16	1.5
510	1	1	.....	5/8	11 1/2	3/4	2.1
511	1 1/8	1 1/8	7/8	3/4	12 1/2	13/16	2.5

WILLIAMS' ♦♦"SUPERIOR" SET SCREW WRENCHES

Carbon Steel—22½° Angle, Double Head
For Set Screws, Square Cap Screws and Nuts



These Wrenches are milled, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

No.	Nominal Openings	For Set Screws; Size	For Sq. Head Cap Screws; Diam. Screws	For Amer. Std. Regular Square Nuts	Ex-treme Length, Approx.	Thick-ness Heads	Weight Each, Lbs.
523	3/16 & 1/4	3/16 & 1/4			3 1/2	7/32	.06
524	3/16 & 5/16	3/16 & 5/16			4 1/4	9/32	.13
525	1/4 & 5/16	1/4 & 5/16			4 1/4	9/32	.14
526	1/4 & 3/8	1/4 & 3/8	1/4		5	11/32	.20
527	3/8 & 3/8	3/8 & 3/8			5	11/32	.23
529	3/8 & 7/16	3/8 & 7/16	1/4 & 5/16	1/4	5 3/4	5/8	.33
530	3/8 & 1/2	3/8 & 1/2	1/4 & 3/8		6 5/8	7/16	.53
531	7/16 & 1/2	7/16 & 1/2	3/8 & 7/16	3/4	6 5/8	7/16	.50
533	1/2 & 9/16	1/2 & 9/16	3/8 & 7/16	5/16	7 1/2	7/16	.71
534	1/2 & 5/8	1/2 & 5/8	3/8 & 1/2	3/8	8 1/2	9/16	1.
535	5/8 & 5/8	5/8 & 5/8	1/2 & 5/8	5/8	8 1/2	9/16	.95
537	5/8 & 3/4	5/8 & 3/4	1/2 & 3/4	3/4	9 3/4	5/8	1.5
539	3/4 & 7/8	3/4 & 7/8	5/8 & 3/4	7/8	11	11/16	1.8
541	7/8 & 1	7/8 & 1	3/4 & 7/8	1	12 1/2	3/4	2.6
543	1 & 1 1/8	1 & 1 1/8	1 & 1 1/8	1	14	13/16	3.6

WILLIAMS' ♦♦"SUPERIOR" TOOL POST WRENCHES

Carbon Steel
For Set Screws



These Wrenches are milled and broached, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

No.	Open End for Set Screw; Size	Closed End for Set Screw; Size	Extreme Length, Approx.	Thickness Heads	Weight Each, Lbs.
554	7/16	7/16	5 1/2	1/2	.45
555	1/2	1/2	6	9/16	.56
555B	9/16	1/2	6	9/16	.56
555C	9/16	9/16	6	9/16	.56
556	5/8	5/8	7	5/8	.80
556B	11/16	5/8	7	5/8	.80
556C	11/16	11/16	7	5/8	.80
557	3/4	3/4	7 5/8	11/16	.94

♦ REGISTERED TRADE MARK

WILLIAMS' ♦♦"SUPERIOR" TOOL POST WRENCHES

Carbon Steel
For Nuts and Set Screws



These Wrenches are milled and broached, surface and edges smooth, sizes stamped on heads, hardened and black enameled (baked on)—heads bright.

Whitworth Standard sizes, see page 64.

No.	Open End Nominal Opening	Amer. Std. Heavy Nut (U.S.S.)	Amer. Std. Regular Nut Size Bolt	Closed End for Set Screw; Size	Ex-treme Length, Approx.	Thick-ness Heads	Wgt. Each, Lbs.
562B	5/8		3/8	9/16	6 1/2	1/2	.72
562	11/16	3/8		9/16	6 1/2	1/2	.72
563E	13/16		1/2	7/16	7	9/16	.84
563F	13/16		1/2	1/2	7	9/16	.84
563G	13/16		1/2	9/16	7	9/16	.84
563H	13/16		1/2	5/8	7	9/16	.84
563	7/8	1/2	9/16	7/16	7	9/16	.84
563B	7/8	1/2	9/16	1/2	7	9/16	.84
563C	7/8	1/2	9/16	9/16	7	9/16	.84
563D	7/8	1/2	9/16	5/8	7 1/2	5/8	.84
564C	1		5/8	5/8	7 1/2	5/8	1.1
564	1 1/16	5/8		5/8	7 1/2	5/8	1.1
565C	1		5/8	3/4	8	5/8	1.2
565	1 1/16	5/8		3/4	8	5/8	1.2
566C	1 1/8		3/4	3/4	9 1/4	3/4	1.6
566D	1 1/8		3/4	7/8	9 1/4	3/4	1.6
566	1 1/4	3/4		3/4	9 1/4	3/4	1.6
566B	1 1/4	3/4		7/8	9 1/4	3/4	1.6
567D	1 1/8		3/4	1	10	7/8	2.5
567	1 1/4	3/4		1	10	7/8	2.5
567E	1 5/16		7/8	7/8	10	7/8	2.5
567F	1 5/16		7/8	1	10	7/8	2.5
567B	1 7/16	7/8		7/8	10	7/8	2.5
567C	1 7/16	7/8		1	10	7/8	2.5
568E	1 1/2		1	7/8	11	15/16	3.3
568F	1 1/2		1	1	11	15/16	3.3
568	1 5/8	1		7/8	11	15/16	3.3
568B	1 5/8	1		1	11	15/16	3.3
568G	1 11/16		1 1/8	1	11	15/16	3.3
568H	1 7/8		1 1/4	1	11	15/16	3.3
568C	1 13/16	1 1/8		1	11	15/16	3.3
568D	2	1 1/4		1	11	15/16	3.3

WILLIAMS' ♦♦"SUPERIOR" HEAVY "S" or CAR WRENCHES

Carbon Steel—22½° Angle, Double Head



These Wrenches are milled, sizes stamped, hardened all over, shot-blasted—heads not bright.

No.	Nominal Openings	Amer. Std. HEAVY Nuts (U.S.S.); Size Bolts	Amer. Std. REGULAR Nuts; Size Bolts	Ex-treme Length, Approx.	Weight Each, Lbs.
367A	5/8 & 1 3/8		3/8 & 1 1/2	12	1.4
367	11/16 & 7/8	3/8 & 1 1/2	1/2 & 1 1/2	12	1.4
370C	13/16 & 7/8		1/2 & 5/8	19	2.7
370A	13/16 & 1		1/2 & 5/8	19	2.6
370	7/8 & 1 1/16	1/2 & 5/8	5/8 & 3/4	19	2.6
370B	1 & 1 1/8	5/8 & 3/4		19	2.5
*372A	1 1/16 & 1 1/4		3/4 & 7/8	20	3.3
373	1 1/8 & 1 5/16			20	3.1
376A	1 1/4 & 1 7/16	3/4 & 7/8		21	4.2
376	1 5/16 & 1 1/2		7/8 & 1	21	4.
†378A	1 7/16 & 1 5/8	7/8 & 1		22	4.9
379	1 1/2 & 1 11/16		1 & 1 1/8	22	4.7
382A	1 5/8 & 1 13/16	1 & 1 1/8		23	6.3
382	1 11/16 & 1 7/8		1 1/8 & 1 1/4	23	6.1
383B	1 7/8 & 2 1/4		1 1/4 & 1 1/2	24	6.5
385	1 13/16 & 2	1 1/8 & 1 1/4		24	6.7
389	2 & 2 3/8	1 1/4 & 1 1/2		25	9.6
389B	2 3/16 & 2 3/8	1 3/8 & 1 1/2		25	9.4

* No. 372A supersedes Old No. 373 previously listed for 5/8 & 3/4" U.S. Nuts.

† No. 378A supersedes Old No. 379 previously listed for 7/8 & 1" U.S. Nuts.

WILLIAMS' ♦“SUPERIOR” STRUCTURAL WRENCHES

Carbon Steel—Straight Opening



Jaws are narrow and long, providing substantially full bearing on square nuts. The long handle is round for the greater part of its length, with tapered end.

Milled, sizes stamped, hardened all over and shot-blasted—heads not bright.

No.	Nominal Opening	Amer. Std. Heavy Nut (U.S.S.); Size Bolt	Amer. Std. Reglr. Nut; Size Bolt	Ex-treme Length, Approx.	Thick-ness Head	Handle Offset		Wgt. Each, Lbs.
						At Head	At End	
901A	7/16	1/4	9 1/2	11/32	13/16	1 1/2	.33	
901	1/2	1/4	9 1/2	11/32	13/16	1 1/2	.33	
901B	9/16	5/16	9 1/2	11/32	13/16	1 1/2	.33	
902	19/32	5/16	9 1/2	11/32	13/16	1 1/2	.33	
903A	5/8	3/8	12	7/16	7/8	1 11/16	.63	
903	11/16	3/8	12	7/16	7/8	1 11/16	.63	
904A	3/4	7/16	12	7/16	7/8	1 11/16	.61	
904	25/32	7/16	12	7/16	7/8	1 11/16	.61	
905A	13/16	1/2	14 1/2	17/32	1	1 7/8	1.2	
905	7/8	9/16	14 1/2	17/32	1	1 7/8	1.2	
906	15/16	9/16	14 1/2	17/32	1	1 7/8	1.2	
906B	1	5/8	14 1/2	17/32	1	1 7/8	1.2	
907	1 1/16	5/8	17	5/8	1 1/8	2 3/8	1.9	
907A	1 1/8	3/4	17	5/8	1 1/8	2 3/8	1.9	
908	1 1/4	3/4	19	11/16	1 1/4	2 3/4	2.9	
908A	1 5/16	7/8	19	11/16	1 1/4	2 3/4	2.9	
909	1 7/16	7/8	21	3/4	1 3/8	3 1/16	4.	
909A	1 1/2	1	21	3/4	1 3/8	3 1/16	4.	
910	1 5/8	1	23	13/16	1 1/2	3 3/8	5.3	
910A	1 11/16	1 1/8	23	13/16	1 1/2	3 3/8	5.3	
911	1 13/16	1 1/8	25	7/8	1 5/8	3 11/16	7.4	
911A	1 7/8	1 1/4	25	7/8	1 5/8	3 11/16	7.4	
912	2	1 1/4	25	7/8	1 5/8	3 11/16	7.4	

WILLIAMS' ♦“SUPERIOR” CONSTRUCTION WRENCHES

Carbon Steel—15° Angle



Deep opening provides substantial bearing on square nuts. The long handle is round for the greater part of its length, with tapered end. Milled, sizes stamped, hardened all over and shot-blasted—heads not bright.

Whitworth Standard sizes, see page 63.

No.	Nominal Opening	For Amer. Std. Heavy Nut (U.S.S.); Size Bolt	For Amer. Std. Regular Nut Size Bolt	Ex-treme Length, Approx.	Thick-ness Head	Weight Each, Lbs.
201A	7/16	1/4	9 1/2	3/8	.27	
201	1/2	1/4	9 1/2	3/8	.27	
201B	9/16	5/16	9 1/2	3/8	.27	
202	19/32	5/16	9 1/2	3/8	.27	
203A	5/8	3/8	12	7/16	.33	
203	11/16	3/8	12	7/16	.33	
204A	3/4	7/16	12	7/16	.30	
204	25/32	7/16	12	7/16	.30	
205A	13/16	1/2	14 1/2	17/32	1.	
205	7/8	9/16	14 1/2	17/32	1.	
206	15/16	9/16	14 1/2	17/32	1.	
206B	1	5/8	14 1/2	17/32	1.	
207	1 1/16	5/8	17	5/8	1.7	
207A	1 1/8	3/4	17	5/8	1.7	
208	1 1/4	3/4	19	11/16	2.6	
208A	1 5/16	7/8	19	11/16	2.6	
209	1 7/16	7/8	21	3/4	3.7	
209A	1 1/2	1	21	3/4	3.7	
210	1 5/8	1	23	27/32	5.3	
210A	1 11/16	1 1/8	23	27/32	5.2	
211	1 13/16	1 1/8	25	15/16	7.3	
211A	1 7/8	1 1/4	25	15/16	7.2	
212	2	1 1/4	25	15/16	7.3	

♦ REGISTERED TRADE MARK

WILLIAMS' ♦“SUPERIOR” CONSTRUCTION WRENCHES

Carbon Steel—15° Angle—45° Bent Handle



These wrenches are particularly useful on flange and pipe line work in refineries, chemical plants and industries using processing equipment. Wrenches are milled, sizes stamped, hardened all over and shot-blasted—heads not bright.

No.	Nominal Opening	For U. S. Std. Nut; Size Bolt	For S.A.E. Std. Nut and Cap Screw	For Amer. Std. Regular Nut; Size Bolt	Ex-treme Length, Approx.	Weight Each, Lbs.
X-205A	13/16	1/2	9/16	1/2	14	1.
X-205	7/8	1/2	9/16	1/2	14	1.
X-206	15/16	9/16	5/8	1/2	14	1.
X-206B	1	5/8	3/4	1/2	14	1.
X-207	1 1/16	5/8	3/4	1/2	16 1/2	1.7
X-207A	1 1/8	3/4	7/8	1/2	16 1/2	1.7
X-208	1 1/4	3/4	7/8	1/2	18 1/2	2.6
X-208A	1 5/16	7/8	1	1/2	18 1/2	2.6
X-209	1 7/16	7/8	1	1/2	20 3/8	3.7
X-209A	1 1/2	1	1 1/8	1/2	20 3/8	3.7
X-210	1 5/8	1	1 1/8	1/2	22 1/4	5.3
X-210A	1 11/16	1 1/8	1 1/4	1/2	22 1/4	5.2
X-211	1 13/16	1 1/8	1 1/4	1/2	24	7.3
X-211A	1 7/8	1 1/4	1 3/8	1/2	24	7.2
X-212	2	1 1/4	1 3/8	1/2	24	7.3

WILLIAMS' ♦“SUPERIOR” CONSTRUCTION WRENCHES

Carbon Steel—15° Angle—90° Bent Handle



Wrenches are milled, sizes stamped, hardened all over and shot-blasted—heads not bright.

No.	Nominal Opening	For U. S. Std. Nut; Size Bolt	For S.A.E. Std. Nut and Cap Screw	For Amer. Std. Regular Nut; Size Bolt	Ex-treme Length, Approx.	Weight Each, Lbs.
Z-205A	13/16	1/2	9/16	1/2	12	1.
Z-205	7/8	1/2	9/16	1/2	12	1.
Z-206	15/16	9/16	5/8	1/2	12	1.
Z-206B	1	5/8	3/4	1/2	12	1.
Z-207	1 1/16	5/8	3/4	1/2	14 5/8	1.7
Z-207A	1 1/8	3/4	7/8	1/2	14 5/8	1.7
Z-208	1 1/4	3/4	7/8	1/2	16 3/8	2.6
Z-208A	1 5/16	7/8	1	1/2	16 3/8	2.6
Z-209	1 7/16	7/8	1	1/2	17 7/8	3.7
Z-209A	1 1/2	1	1 1/8	1/2	17 7/8	3.7
Z-210	1 5/8	1	1 1/8	1/2	19 1/2	5.3
Z-210A	1 11/16	1 1/8	1 1/4	1/2	19 1/2	5.2
Z-211	1 13/16	1 1/8	1 1/4	1/2	21	7.3
Z-211A	1 7/8	1 1/4	1 3/8	1/2	21	7.2
Z-212	2	1 1/4	1 3/8	1/2	21	7.3

WILLIAMS' ♦“SUPERIOR” ADJUSTABLE FACE SPANNERS

Carbon Steel



Drop-forged from a strong, tough grade of carefully selected steel, this is a desirable and dependable tool for service where Center to Center dimensions vary.

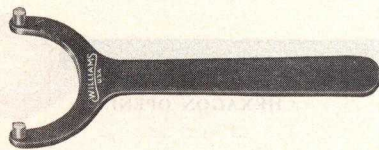
These Wrenches have pins milled, surfaces smooth, hardened, black enameled (baked on).

No.	Ex-treme Capacity	Ex-treme Length, Approx.	Diameter of Pins	Weight Each, Lbs.	No.
482	2	6 3/8	3/16	.33	482
483	3	8 1/4	1/4	.59	483
484	4	10 3/8	5/16	1.	484

See page 68 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.

DROP - FORGINGS AND **WILLIAMS** DROP - FORGED TOOLS

WILLIAMS' ♦"SUPERIOR" FACE SPANNERS Carbon Steel



Pins are forged integral with wrench. Surfaces smoothed, pins milled, hardened all over and black enameled.

No.	Pins			Span of Jaws in Clear	Length from Center of Pins	Thick-ness	Weight Each, Lbs.
	Distance C to C	Diam. Milled	Length				
418	1	3/16	3/16	11/16	4 1/2	3/16	.13
420	1 1/4	7/32	7/32	7/8	5	3/16	.17
422	1 1/2	7/32	7/32	1 1/8	5 1/2	3/16	.20
424	1 3/4	7/32	7/32	1 3/8	6	7/32	.28
426	2	1/4	1/4	1 19/32	6 1/2	7/32	.30
428	2 1/4	1/4	1/4	1 27/32	7	7/32	.42
430	2 1/2	9/32	9/32	2 1/32	7 1/2	1/4	.52
432	2 3/4	9/32	9/32	2 9/32	8	1/4	.59
434	3	5/16	5/16	2 1/2	8 1/2	1/4	.70
436	3 1/4	5/16	5/16	2 3/4	9 1/8	1/4	.82
438	3 1/2	5/16	5/16	3	9 3/4	1/4	.89
440	3 3/4	3/8	3/8	3 3/16	10 3/8	1/4	1
442	4	3/8	3/8	3 7/16	11	1/4	1.1

WILLIAMS' ♦"SUPERIOR" PIN SPANNERS Carbon Steel



Pins are forged integral with wrench. Surfaces smoothed, pins milled, hardened all over and black enameled.

Number	For Circle; Diameter	Extreme Length, Approx.	Finished Diameter Pin	Weight Each, Lbs.
452	1	4	3/16	.08
453	1 1/4	4 1/2	13/64	.11
454	1 1/2	5	7/32	.13
455	1 3/4	5 1/2	15/64	.17
456	2	6	1/4	.20
457	2 1/4	6 1/2	17/64	.23
458	2 1/2	7	9/32	.31
459	2 3/4	7 1/2	19/64	.33
460	3	8	5/16	.44
461	3 1/4	8 1/2	21/64	.50
462	3 1/2	9	11/32	.56
463	3 3/4	9 1/2	23/64	.66
464	4	10	3/8	.70
466	5	12	7/16	1.3
468	6	14	1/2	1.9

WILLIAMS' ♦"SUPERIOR" HOOK SPANNERS Carbon Steel



Made especially to service Face Plate Draw Nuts used on taper-nose spindles for new design lathes. Very efficient, also, for general work. Supplied with bearing pads and hook machined; hardened, black enameled (baked on).

*Can be furnished to order for circle 1/8" larger.

No.	For Circle; Diameter	Extreme Length	Thickness, Hook End	Wgt. Each, Lbs.
414	* 7 3/8	20	5/8	4.1
415	* 9 1/4	23 1/4	11/16	5.7
416	*12 1/2	30 3/4	3/4	8.7

♦ REGISTERED TRADE MARK

WILLIAMS' FLAT HOOK SPANNERS Carbon Steel—Not Machined



No.	For Circle; Diameter	For Circle; Diameter	Extreme Length, Approx.	Thick-ness	Weight Each, Lbs.
403	1 1/4	1 to 1 1/4	4 3/4	7/32	.13
404	1 1/2	1 3/8 to 1 5/8	6	1/4	.25
405	2	1 3/4 to 2	7 1/8	1/4	.38
406	2 1/4	2 1/8 to 2 3/8	8 7/16	1/4	.48
407	2 5/8	2 1/2 to 2 3/4	9 3/4	1/4	.64
408	3 1/8	2 7/8 to 3 1/4	11	5/16	.98
409	3 3/4	3 3/8 to 3 7/8	12	5/16	1.2
410	4 3/8	4 to 4 1/2	13	5/16	1.3
412	5 3/4	5 1/4 to 5 3/4	15	7/16	2.6

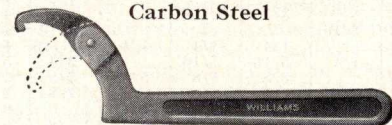
WILLIAMS' LIGHT HOOK SPANNERS Carbon Steel—Not Machined



† Length of handle can be varied if desired.

No.	For Circle; Diameter	Extreme Length, Approx.	Hook			Diameter Handle	Wgt. Each, Lbs.
			Length	Width	Thickness		
491	1 3/16	6 1/2	1/16	3/8	7/32	3/8	.20
493	1 3/4	7 1/2	1/8	3/8	7/32	3/8	.22
494	2 1/8	8	1/8	3/8	7/32	3/8	.23
495	2 1/2	8 1/4	1/8	3/8	7/32	3/8	.23
496	2 3/4	8 1/2	1/8	3/8	7/32	3/8	.25
497	3	8 3/4	1/8	3/8	7/32	3/8	.25
498	3 1/2	9	1/8	3/8	7/32	3/8	.27

WILLIAMS' ♦"SUPERIOR" ADJUSTABLE HOOK SPANNERS Carbon Steel

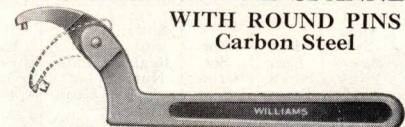


Drop-forged from a strong, tough grade of carefully selected steel, surfaces smoothed, black enameled (baked on); jaw hardened and tempered. Sold individually, or in Set No. 401. Especially serviceable on spindle bearings of lathes, milling machines and grinding machines.

SET No. 401—In Cardboard Box—Weight, 3 lbs.
Contains 1 each, Nos. 471, 472, 474 and 474A.

No.	Capacity for Circles; Diameter	Extreme Length, Approx.	Thickness		Depth Hook	Weight Each, Lbs.
			Handle	Hook		
471	3/4 to 2	6 3/8	1/4	11/32	1/8	.28
472	1 1/4 to 3	8 1/8	9/32	13/32	5/32	.52
474	2 to 4 3/4	11 3/8	5/16	15/32	3/16	.95
474A	4 1/2 to 6 1/4	12 1/8	5/16	15/32	1/4	1.1

WILLIAMS' ♦"SUPERIOR" ADJUSTABLE HOOK SPANNERS WITH ROUND PINS Carbon Steel

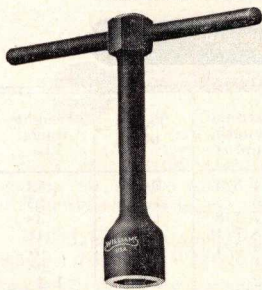


This adjustable type pin spanner is used for adjusting collars, lock nuts, rings, etc., used on various types of machine tool equipment. Drop-forged from a strong, tough grade of carefully selected steel, surfaces smoothed, black enameled (baked on); alloy steel jaw hardened and tempered.

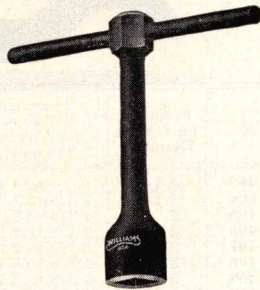
No.	Capacity for Circles, Diameter	Extreme Length, Approx.	Thickness		Pin Size		Wgt. Each, Lbs.
			Handle	Hook	Diam.	Length	
O-471	3/4 to 2	6 3/8	1/4	11/32	1/8	1/8	.27
O-471A	3/4 to 2	6 3/8	1/4	11/32	3/16	5/32	.27
O-472	1 1/4 to 3	8 1/8	9/32	13/32	3/16	3/16	.5
O-472A	1 1/4 to 3	8 1/8	9/32	13/32	1/4	7/32	.5
O-474	2 to 4 3/4	11 3/8	5/16	15/32	1/4	1/4	.99
O-474A	4 1/2 to 6 1/4	12 1/8	5/16	15/32	3/8	1/4	1.1

**WILLIAMS' "SUPERIOR"
SOCKET WRENCHES**

Carbon Steel—STRAIGHT PATTERN



HEXAGON OPENING



SQUARE OPENING

These Wrenches are broached, surface smooth, sizes stamped, hardened and black enameled (baked on)—faces bright.

Whitworth Standard sizes, see page 64.

Special broaching to order in reasonable quantities.

Hexagon end of shank is designed for use in combination with another wrench or with Pin-Handle.

Wrenches of shorter or longer lengths than stated in table can be furnished to order in quantities.

Pin-Handles can be removed.

HEXAGON OPENINGS

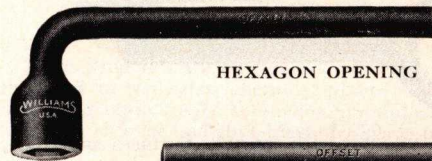
No.	Nominal Opening Across Flats	Amer. Std. Heavy Nut (USS); Size Bolt	Amer. Std. Cap Screw; Diam. Screw	Amer. Std. Light Nut (SAE); Size Bolt	Amer. Std. Regl. Nut; Size Bolt	Diam. of Head	Ex-treme Length, Approx.	Wgt. Each, Lbs.
961A	5/16	1/8				1/2	4 1/4	.13
962D	3/8		3/16			5/8	4 1/2	.22
963A	13/32	3/16				11/16	4 7/8	.3
963D	7/16		1/4	1/4	1/4	11/16	4 7/8	.3
964A	1/2	1/4	5/16	5/16	5/16	3/4	5 1/4	.31
965D	9/16		3/8	3/8	5/16	7/8	5 3/4	.45
965A	19/32	5/16				7/8	5 3/4	.45
966D	5/8		7/16	7/16	3/8	1	6 1/8	.63
967A	11/16	3/8				1 1/8	6 1/2	.92
967D	3/4		1/2	1/2	7/16	1 1/8	6 1/2	.92
968A	25/32	7/16				1 1/4	7	1.1
968D	13/16		9/16		1/2	1 1/4	7	1.1
969A	7/8	1/2	5/8	9/16	9/16	1 3/8	7 3/8	1.3
970S	15/16	9/16		5/8		1 1/2	7 7/8	1.6
970D	1		3/4		5/8	1 1/2	7 7/8	1.6
971A	1 1/16	5/8		3/4		1 5/8	8 1/4	1.9
971D	1 1/8		7/8		3/4	1 5/8	8 1/4	1.9
973A	1 1/4	3/4		7/8		1 7/8	9 1/8	2.9
973B	1 5/16		1		7/8	1 7/8	9 1/8	2.9
975A	1 7/16	7/8		1		2 1/8	10	4.2
975D	1 1/2		1 1/8		1	2 1/8	10	4.2
976A	1 5/8	1		1 1/8		2 3/8	10 3/8	5.3
976B	1 11/16		1 1/4		1 1/8	2 3/8	10 3/8	5.3
977A	1 13/16	1 1/8		1 1/4		2 5/8	10 7/8	7.2
977B	1 7/8				1 1/4	2 5/8	10 7/8	6.7
978A	2	1 1/4		1 3/8		2 7/8	11 3/8	6.8
979A	2 3/16	1 3/8		1 1/2		3	11 7/8	8.7
979B	2 1/4				1 1/2	3	11 7/8	8.7
980A	2 3/8	1 1/2				3 5/16	12 1/2	11.

SQUARE OPENINGS

No.	Nominal Opening	Amer. Std. Heavy Nut (USS); Size Bolt	For Cap Screw; Diam. Screw	For Set Screw; Size	Amer. Std. Regl. Nut; Size Bolt	Diam. of Head	Ex-treme Length, Approx.	Wgt. Each, Lbs.
961H	3/16			3/16		1/2	4 1/4	.13
961J	1/4			1/4		1/2	4 1/2	.13
962H	5/16			5/16		5/8	4 1/2	.22
963H	3/8		1/4	3/8		11/16	4 7/8	.3
965H	7/16		5/16	7/16	1/4	7/8	5 3/4	.45
966H	1/2		3/8	1/2		1	6 1/8	.63
967H	9/16		7/16	9/16	5/16	1 1/8	6 1/2	.92
968H	5/8		1/2	5/8	3/8	1 1/4	7	1.1
968P	11/16	3/8	9/16			1 1/4	7	1.1
969H	3/4		5/8	3/4	7/16	1 3/8	7 3/8	1.3
971H	7/8	1/2	3/4	7/8	9/16	1 5/8	8 1/4	1.9
973H	1				5/8	1 7/8	9 1/8	2.9
974H	1 1/8		7/8		3/4	2	9 1/2	3.5
976H	1 1/4	3/4	1			2 3/8	10 3/8	5.3
977X	1 7/16	7/8				2 5/8	10 7/8	7.2
977P	1 1/2		1 1/4	1 1/2	1	2 5/8	10 7/8	7.2

**WILLIAMS' "SUPERIOR"
OFFSET SOCKET WRENCHES**

Carbon Steel



HEXAGON OPENING



SQUARE OPENING

These Wrenches are broached, surface smooth, sizes stamped, hardened and black enameled—faces bright.

Whitworth Standard sizes, see page 64.

Special broaching to order in reasonable quantities.

These Offset Socket Wrenches, of shorter or longer lengths than stated in table, can be furnished to order in quantities.

HEXAGON OPENINGS

No.	Nominal Opening Across Flats	Amer. Std. Heavy Nut (USS); Size Bolt	Amer. Std. Cap Screw; Diam. Screw	Amer. Std. Light Nut (SAE); Size Bolt	Amer. Std. Regl. Nut; Size Bolt	Diam. of Head	Ex-treme Length, Approx.	Handle Offset in Clear from Face of Wrench	Wgt. Each, Lbs.
261A	5/16	1/8				1/2	3 3/8	13/16	.08
262D	3/8		3/16			5/8	3 7/8	1	.17
263A	13/32	3/16				11/16	4 5/16	1 1/16	.19
263D	7/16		1/4	1/4	1/4	11/16	4 5/16	1 1/16	.20
264A	1/2	1/4	5/16	5/16	5/16	3/4	5 1/8	1 1/4	.22
265D	9/16		3/8	3/8	5/16	7/8	5 7/8	1 7/16	.36
265A	19/32	5/16				7/8	5 7/8	1 7/16	.36
266D	5/8		7/16	7/16	3/8	1	6 1/4	1 9/16	.50
267A	11/16	3/8				1 1/8	6 3/4	1 5/8	.67
267D	3/4		1/2	1/2	7/16	1 1/8	6 3/4	1 5/8	.67
268A	25/32	7/16				1 1/4	7 1/2	1 13/16	.92
268D	13/16		9/16		1/2	1 1/4	7 1/2	1 13/16	.92
269A	7/8	1/2	5/8	9/16	9/16	1 3/8	8 3/8	2	1.1
270S	15/16	9/16		5/8		1 1/2	9 1/8	2 3/16	1.4
270D	1		3/4		5/8	1 1/2	9 1/8	2 3/16	1.4
271A	1 1/16	5/8		3/4		1 5/8	10	2 3/8	1.8
271D	1 1/8		7/8		3/4	1 5/8	10	2 3/8	1.8
273A	1 1/4	3/4		7/8		1 7/8	11 5/8	2 3/4	2.7
273B	1 5/16		1		7/8	1 7/8	11 5/8	2 3/4	2.7
275A	1 7/16	7/8		1		2 1/8	13 1/4	3 1/8	4.1
275D	1 1/2		1 1/8		1	2 1/8	13 1/4	3 1/8	4.1
276A	1 5/8	1		1 1/8		2 3/8	14 7/8	3 1/2	5.1
276B	1 11/16		1 1/4		1 1/8	2 3/8	14 7/8	3 1/2	5.1
277A	1 13/16	1 1/8		1 1/4		2 5/8	16 1/2	3 7/8	6.6
277B	1 7/8				1 1/4	2 5/8	16 1/2	3 7/8	6.1
278A	2	1 1/4		1 3/8		2 7/8	18 1/4	4 3/8	8.
279A	2 3/16	1 3/8		1 1/2		3	20	4 7/8	10.
279B	2 1/4				1 1/2	3	20	4 7/8	10.
280A	2 3/8	1 1/2				3 5/16	21 3/4	5 3/8	12.5

SQUARE OPENINGS

No.	Nominal Opening	Amer. Std. Heavy Nut (USS); Size Bolt	For Cap Screw; Diam. Screw	For Set Screw; Size	Amer. Std. Regl. Nut; Size Bolt	Diam. of Head	Ex-treme Length, Approx.	Handle Offset in Clear from Face of Wrench	Wgt. Each, Lbs.
261J	1/4			1/4		1/2	3 3/8	13/16	.08
262H	5/16			5/16		5/8	3 7/8	1	.17
263H	3/8		1/4	3/8		11/16	4 5/16	1 1/16	.20
265H	7/16		5/16	7/16	1/4	7/8	5 7/8	1 7/16	.36
266H	1/2		3/8	1/2		1	6 1/4	1 9/16	.52
267H	9/16		7/16	9/16	5/16	1 1/8	6 3/4	1 5/8	.70
268H	5/8		1/2	5/8	3/8	1 1/4	7 1/2	1 13/16	.95
268P	11/16	3/8	9/16			1 1/4	7 1/2	1 13/16	.92
269H	3/4		5/8	3/4	7/16	1 3/8	8 3/8	2	1.
271H	7/8	1/2	3/4	7/8	9/16	1 5/8	10	2 3/8	1.9
273H	1				5/8	1 7/8	11 5/8	2 3/4	2.7
274H	1 1/8		7/8		3/4	2	12 3/8	2 7/8	3.5
276H	1 1/4	3/4	1		1 1/4	2 3/8	14 7/8	3 1/2	5.7

WILLIAMS' "BULL DOG" WRENCHES

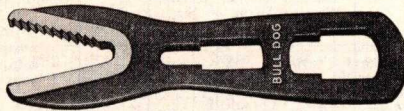
Carbon Steel



Nos. 2 to 5



No. 1



No. 1 1/2



No. 1 3/4



Twin



"Always Ready"

Designed for all-around service, these wrenches will grip round, square, hexagon or any shape that will fit between their tough jaws.

Drop-forged from a specially fine grade of steel and carefully tempered in oil, these wrenches are practically indestructible.

The handles of "Bull Dog" Nos. 2 and 2-1/2 are concave.

"BULL DOG" WRENCHES

No.	Capacity		Extreme Length	Weight Each, Lbs.
	Pipe	Rounds		
1	1/8 to 3/8	1/4 to 3/4	5 1/2	.25
2	1/8 to 1/2	3/8 to 7/8	5 1/2	.29
3	1/8 to 3/4	3/8 to 1	7	.56
2	1/4 to 3/4	1/2 to 1	9	.86
2 1/2	3/8 to 1	5/8 to 1 1/4	12 1/2	1.4
3	1/2 to 1 1/4	3/4 to 1 1/2	16	3.1
3 1/2	1/2 to 1 1/2	3/4 to 1 3/4	18 3/4	4.3
4	3/4 to 2	1 to 2 1/4	22	7.9
4 1/2	1 to 2 1/2	1 1/4 to 2 3/4	24	10.1
5	2 to 3	2 1/4 to 3 1/2	27	13.8
Twin	1/8 to 3/4	5/16 to 1	10	1.1

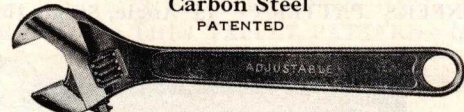
"ALWAYS READY" WRENCHES

No.	Capacity	Extreme Length	Weight Each, Lbs.
1	1/8 to 3/8	1/4 to 3/4	.37
2	1/8 to 1	1/4 to 1 1/4	.75
2 1/2	1/8 to 1 1/2	1/4 to 1 3/4	1.7
3	1/2 to 1 1/2	3/4 to 2	2.7

★ REGISTERED TRADE MARK

WILLIAMS' ADJUSTABLE WRENCHES

Carbon Steel
PATENTED



Fully Guaranteed

Drop-forged from specially strong, tough steel and accurately heat-treated in electric furnaces for uniform, dependable strength. Finish—shot-blasted, faces of heads polished bright. Packed, individually, in attractive cardboard box.

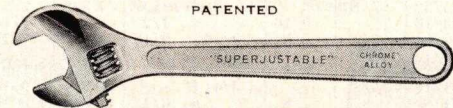
Size, Inch	Capacity	Thickness Head		Weight Each, Lbs.
		Tip of Jaws	Extreme	
4	1/2	9/64	5/16	.11
6	3/4	7/32	3/8	.28
8	15/16	17/64	1/2	.52
10	1 1/8	23/64	19/32	.88
12	1 5/16	15/32	23/32	1.5
15	1 3/4	19/32	31/32	3.4
18	2 1/16	23/32	1 3/16	5.6

WILLIAMS'

★ "SUPERJUSTABLE" WRENCHES

Selected Alloy Steel

PATENTED



Fully Guaranteed

Williams' "Superjustable" Wrenches with thin, tapered jaws, are drop-forged from the finest grade of Selected Alloy Steel obtainable for the purpose.

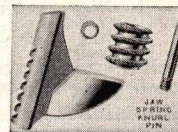
The exclusive design of the square shoulders on the shank portion of the sliding jaw provide maximum and positive bearing against working stress. They eliminate entirely the wedging and spreading action, inevitable in wrenches having a cylindrical bearing at this point. The shoulders also permit a thicker "web" on the jaw, for added strength, without increasing the thickness of the wrench head. The net result is a sliding jaw with maximum resistance to breakage.

Attractively finished in chrome-plate over nickel, with highly polished face; the handle is in "satin" finish. Individually packed.

Size, Inch	Capacity	Thickness Head		Weight Each, Lbs.
		Tip of Jaws	Extreme	
4	1/2	9/64	5/16	.11
6	3/4	7/32	3/8	.27
8	15/16	17/64	1/2	.52
10	1 1/8	23/64	19/32	.90
12	1 5/16	15/32	23/32	1.6
15	1 3/4	19/32	31/32	3.6
18	2 1/16	23/32	1 3/16	6.
24	2 7/16	7/8	1 3/8	9.1

REPLACEMENT PARTS ASSORTMENT

Weight, 2.5 Lbs.



When ordering, specify whether for Adjustable (Carbon Steel) or "Superjustable" (Selected Alloy Steel).

Packed in compartment cardboard box containing 88 of the following parts:—

Size	Jaws	Knurls	Pins	Springs
4"	4	4	4	4
6"	6	6	6	6
8"	6	6	6	6
10"	4	4	4	4
12"	2	2	2	2

WILLIAMS' "SUPERRENCHES"

Selected Alloy Steel

ENGINEERS' PATTERN — 15° Angle, Single Head

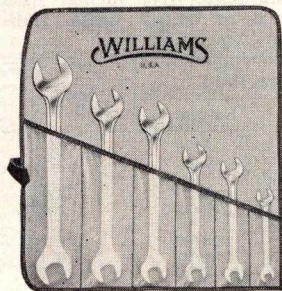


These "Superrenches" are drop-forged from Selected Alloy Steel and heat-treated. Finish—Chrome-plate over nickel, faces bright. Handle can be bent above head at angles of 45° to 90° from opening, at an additional charge.

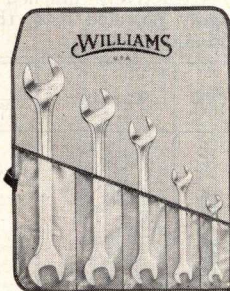
No.	Nominal Opening	Amer. Std. Heavy Nut (U.S.S.); Size Bolt	Amer. Std. Hex Hd. Cap Screw; Diam. Screw	Amer. Std. Light Nut (SAE); Size Bolt	Amer. Std. Reglr. Nut; Size Bolt	Ex-treme Length	Thick-ness Head	Wgt. Each, Lbs.
1000	5/16	1/8	1/8			3 5/8	7/32	.07
1700	3/8		3/16			4 1/8	1/4	.09
1000A	13/32	3/16				4 1/8	1/4	.09
1701	7/16		1/4	1/4	1/4	4 3/4	9/32	.13
1001	1/2	1/4	5/16	5/16		4 3/4	9/32	.13
1702	9/16		3/8	3/8	5/16	5 5/8	5/16	.22
1002	19/32	5/16				5 5/8	5/16	.22
1703	5/8		7/16	7/16	3/8	6 1/2	11/32	.33
1003	11/16	3/8				6 1/2	11/32	.33
1704	3/4		1/2	1/2	7/16	7 3/8	3/8	.48
1004	25/32	7/16				7 3/8	3/8	.48
1705	13/16		9/16		1/2	8 3/8	7/16	.65
1005	7/8	1/2	5/8	9/16	9/16	8 3/8	7/16	.65
1006	15/16	9/16		5/8		9 1/2	1/2	.92
1706	1		3/4	11/16	5/8	9 1/2	1/2	.92
1007	1 1/16	5/8		3/4		10 3/4	9/16	1.5
1707	1 1/8		7/8		3/4	10 3/4	9/16	1.5
1008	1 1/4	3/4		7/8		12 1/4	21/32	2.2
1008A	1 5/16		1		7/8	12 1/4	21/32	2.2
1009	1 7/16	7/8		1		13 7/8	23/32	2.8
1709	1 1/2		1 1/8		1	13 7/8	23/32	2.8
1010	1 5/8	1		1 1/8		15 1/2	25/32	3.9
1010A	1 11/16		1 1/4		1 1/8	15 1/2	25/32	3.9
1011	1 13/16	1 1/8		1 1/4		17 1/8	7/8	4.8
1011A	1 7/8			1 1/4		17 1/8	7/8	4.8
1012	2	1 1/4		1 3/8		18 7/8	15/16	6.2
1012A	2 1/16			1 3/8		18 7/8	15/16	6.2
1013	2 3/16	1 3/8		1 1/2		20 3/4	1	8.
1013A	2 1/4			1 1/2		20 3/4	1	8.
1014	2 3/8	1 1/2				22 3/4	1 1/16	10.
1014A	2 7/16				1 5/8	22 3/4	1 1/16	10.

WILLIAMS' "SUPERRENCH" SETS

Selected Alloy Steel



SET No. A1025A



SET No. A1005S

No.	Nominal Openings	Amer. Std. Heavy Nuts (U.S.S.); Size Bolts	Amer. Std. Hex Head Cap Screws; Diam. Screws	Amer. Std. Light Nuts (S.A.E.); Size Bolts	Amer. Std. Regular Nuts; Size Bolts
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SET No. A1025A—In Leatherette Roll—In Cardboard Box
Weight, 2.8 Lbs.

A1723	3/8 & 7/16		3/16 & 1/4	1/4	1/4
A1025	1/2 & 19/32	1/4 & 5/16	5/16		
A1727	9/16 & 5/8		3/8 & 7/16	3/8 & 7/16	5/16 & 3/8
A1029	11/16 & 25/32	3/8 & 7/16			
A1731A	3/4 & 7/8	1/2	1/2 & 5/8	1/2 & 9/16	7/16 & 9/16
A1033C	15/16 & 1	9/16	3/4	5/8	

SET No. A1005S—In Leatherette Roll—In Cardboard Box
Weight, 3.9 Lbs.

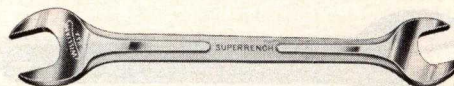
A1725	7/16 & 1/2		1/4 & 5/16	1/4 & 5/16	1/4
A1727	9/16 & 5/8	1/4	3/8 & 7/16	3/8 & 7/16	5/16 & 3/8
A1731A	3/4 & 7/8	1/2	1/2 & 5/8	1/2 & 9/16	7/16 & 9/16
A1033C	15/16 & 1	9/16	3/4	5/8	5/8
A1037	1 1/16 & 1 1/4	5/8 & 3/4		3/4 & 7/8	

♦ REGISTERED TRADE MARK

WILLIAMS' "SUPERRENCHES"

Selected Alloy Steel

NEW STREAMLINED DESIGN
15° Angle, Double Head Open-End



Slimmer heads, longer and narrower handles make these wrenches more serviceable where clearance is limited.

The selected alloy steel from which these "Superrenches" are drop-forged assures ample strength for the severest service. Finish is chrome-plate over nickel with faces polished bright.

For Whitworth and Metric sizes, see page 65.

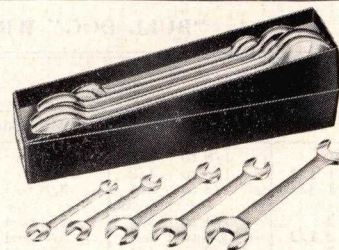
No.	Nominal Openings	Amer. Std. Heavy Nuts (U.S.S.); Size Bolts	Amer. Std. Hex Hd Cap Screws; Diam. Screws	Amer. Std. Light Nuts (SAE); Size Bolts	Amer. Std. Regular Nuts Size Bolts	Ex-treme Length	Thick-ness Heads	Wgt. Each, Lbs.
A1020	1/4 & 5/16	1/8	1/8			3 13/16	5/32	.03
A1720	3/8 & 7/16		3/16			4 1/4	3/16	.05
A1721	9/16 & 5/8	1/4	1/4	3/16		4 1/2	3/16	.05
A1021	1/2 & 19/32	1/4	1/4			4 1/2	3/16	.06
A1723	5/8 & 7/8	3/8	3/8	1/2	1/4	4 1/2	3/16	.07
A1023	11/16 & 25/32	3/8	3/8			4 7/8	3/16	.08
A1723A	3/4 & 13/16	3/8	3/8	1/2		4 7/8	3/16	.08
A1725	7/8 & 15/16	1/2	1/2	3/4	1/4	5 1/8	3/16	.10
A1725A	15/16 & 1	1/2	1/2	3/4		5 1/8	3/16	.12
A1025	1 1/16 & 1 1/8	5/8	5/8	3/4	3/8	6 1/4	3/16	.15
A1727	1 1/8 & 1 1/4	3/4	3/4	1	3/8	6 1/4	3/16	.16
A1027C	1 1/4 & 1 1/2	7/8	7/8	1 1/8	3/8	7 1/8	3/16	.20
A1027	1 1/2 & 1 5/8	1	1	1 1/4	3/8	7 1/8	3/16	.23
A1027B	1 5/8 & 1 3/4	1 1/8	1 1/8	1 1/2	3/8	7 1/8	3/16	.26
A1028	1 3/4 & 1 7/8	1 1/4	1 1/4	1 3/4	3/8	8 1/4	3/16	.32
A1028S	1 7/8 & 2	1 1/4	1 1/4	1 3/4	3/8	8 1/4	3/16	.32
A1729	2 & 2 1/16	1 1/2	1 1/2	1 3/4	3/8	8 1/4	3/16	.32
A1029B	2 1/16 & 2 1/8	1 1/2	1 1/2	1 3/4	3/8	9	3/16	.38
A1029	2 1/8 & 2 1/4	1 1/2	1 1/2	1 3/4	3/8	9	3/16	.38
A1029C	2 1/4 & 2 1/2	1 1/2	1 1/2	1 3/4	3/8	9	3/16	.37
A1030	2 1/2 & 2 5/8	1 3/4	1 3/4	1 3/4	3/8	9 3/8	3/16	.45
A1731	2 5/8 & 3	1 3/4	1 3/4	1 3/4	3/8	9 3/8	3/16	.54
A1731A	3 & 3 1/8	1 3/4	1 3/4	1 3/4	3/8	9 3/8	3/16	.54
A1031B	3 1/8 & 3 1/4	1 3/4	1 3/4	1 3/4	3/8	9 3/8	3/16	.54
A1031	3 1/4 & 3 1/2	1 3/4	1 3/4	1 3/4	3/8	9 3/8	3/16	.53
A1731B	3 1/2 & 3 3/4	1 3/4	1 3/4	1 3/4	3/8	9 3/8	3/16	.53
A1032B	3 3/4 & 4	1 3/4	1 3/4	1 3/4	3/8	10 1/2	3/8	.71
A1033A	4 & 4 1/8	1 3/4	1 3/4	1 3/4	3/8	10 1/2	3/8	.69
A1733	4 1/8 & 4 1/4	1 3/4	1 3/4	1 3/4	3/8	11 3/8	3/8	.92
A1033C	4 1/4 & 4 1/2	1 3/4	1 3/4	1 3/4	3/8	11 3/8	3/8	.91
A1034	4 1/2 & 4 5/8	1 3/4	1 3/4	1 3/4	3/8	11 3/8	3/8	.90
A1034A	4 5/8 & 5	1 3/4	1 3/4	1 3/4	3/8	11 3/8	3/8	.90
A1035	5 & 5 1/8	1 3/4	1 3/4	1 3/4	3/8	11 3/8	3/8	.92
A1735	5 1/8 & 5 1/4	1 3/4	1 3/4	1 3/4	3/8	12 1/4	3/8	1.1
A1036B	5 1/4 & 5 1/2	1 3/4	1 3/4	1 3/4	3/8	12 1/4	3/8	1.2
A1037	5 1/2 & 5 5/8	1 3/4	1 3/4	1 3/4	3/8	13 1/4	3/8	1.4
A1737	5 5/8 & 6	1 3/4	1 3/4	1 3/4	3/8	13 1/4	3/8	1.4
A1037A	6 & 6 1/8	1 3/4	1 3/4	1 3/4	3/8	13 1/4	3/8	1.4
A1039B	6 1/8 & 6 1/4	1 3/4	1 3/4	1 3/4	3/8	14 3/8	3/8	1.9
A1039	6 1/4 & 6 1/2	1 3/4	1 3/4	1 3/4	3/8	14 3/8	3/8	1.8
A1039A	6 1/2 & 6 3/4	1 3/4	1 3/4	1 3/4	3/8	15 1/2	3/8	2.3
A1039C	6 3/4 & 7	1 3/4	1 3/4	1 3/4	3/8	15 1/2	3/8	2.3
A1040	7 & 7 1/8	1 3/4	1 3/4	1 3/4	3/8	16 3/8	3/8	2.5
A1041	7 1/8 & 7 1/4	1 3/4	1 3/4	1 3/4	3/8	16 3/8	3/8	2.7
A1041B	7 1/4 & 7 1/2	1 3/4	1 3/4	1 3/4	3/8	16 3/8	3/8	2.7

SET No. A1712A

Complete,
In Cardboard Box

11 Wrenches,
22 Different Openings

Weight, 9.5 Lbs.

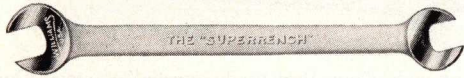


No.	Nominal Openings	Amer. Std. Heavy Nuts (U.S.S.); Size Bolts	Amer. Std. Hex Head Cap Screws; Diam. Screws	Amer. Std. Light Nuts (S.A.E.); Size Bolts	Amer. Std. Regular Nuts; Size Bolts
A1020	1/4 & 5/16	1/8	1/8		
A1723	3/8 & 7/16		3/16 & 1/4	1/4	1/4
A1025	1/2 & 19/32	1/4 & 5/16	5/16		
A1727	9/16 & 5/8		3/8 & 7/16	3/8 & 7/16	5/16 & 3/8
A1029	11/16 & 25/32	3/8 & 7/16			
A1731	3/4 & 7/8	1/2	1/2 & 9/16	1/2	7/16 & 9/16
A1033A	15/16 & 1	9/16	3/4	5/8	5/8 & 3/4
A1735	1 1/8 & 1 1/4	5/8 & 3/4	1	3/4 & 7/8	
A1037	1 1/16 & 1 1/4	5/8 & 3/4		1 & 1 1/8	
A1039A	1 5/16 & 1 1/2	7/8		1	
A1039C	1 3/8 & 1 7/16	7/8			

WILLIAMS' ♦ "SUPERRENCHES"

Selected Alloy Steel

TAPPET PATTERN — 15° Angle, Double Head



These light, thin Wrenches are specially designed for tappet adjustment; their length is ample to prevent burning the hands when the motor is hot.

The 15° angle of opening is unequalled in efficiency. It makes the same size opening in both heads of the wrench unnecessary. Consequently *each* "Superrench" serves *two sizes* of tappets.

Drop-forged from special Selected Alloy Steel, heat-treated, chrome-finished, heads buffed bright.

No.	Nominal Openings Tappet Sizes	Amer. Std. Heavy Nuts (USS); Size Bolts	Amer. Std. Hex Head Cap Screws; Diam. Screws	Amer. Std. Light Nuts (SAE); Size Bolts	Amer. Std. Regl. Nuts; Size Bolts	Ex- treme Length	Thick- ness Heads	Wgt. Each, Lbs.
1090A	3/8 & 7/16	1/4	3/16 & 1/4	1/4 & 5/16	1/4	8	3/32	.19
1090	7/16 & 17/32	1/4	1/4 & 5/16	1/4 & 5/16	1/4	8	3/32	.19
1090G	7/16 & 17/32	1/4	1/4 & 5/16	1/4 & 5/16	1/4	8	3/32	.19
1090D	7/16 & 17/32	1/4	1/4 & 5/16	1/4 & 5/16	1/4	8	3/32	.19
1092	7/16 & 17/32	3/8	3/8 & 7/16	3/8 & 7/16	3/8	8	3/16	.22
1092F	7/16 & 17/32	3/8	3/8 & 7/16	3/8 & 7/16	3/8	8	3/16	.22
1094G	3/4 & 1 1/16	1 1/2	1 1/2 & 9/16	1 1/2 & 9/16	1 1/2	9	7/32	.34
1094	3/4 & 1 1/8	1 1/2	1 1/2 & 9/16	1 1/2 & 9/16	1 1/2	9	7/32	.34
1096	1 1/16 & 1	3/16	3/4 & 5/8	3/4 & 5/8	3/4	9	7/32	.41

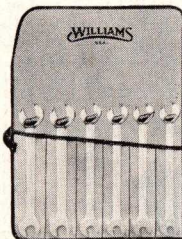
WILLIAMS' TAPPET ♦ "SUPERRENCH" SETS

Selected Alloy Steel

These light, thin Wrenches are specially designed for tappet adjustment; their length is ample to prevent burning the hands when the motor is hot.

The 15° angle of opening is unequalled in efficiency. It makes the same size opening in both heads of the wrench unnecessary. Consequently *each* "Superrench" serves *two sizes* of tappets.

Drop-forged from special Selected Alloy Steel, heat-treated, chrome-finished, heads buffed bright.



SET No. 1032

In Leatherette Roll

In Cardboard Box

Weight, 1.3 Lbs.

Six "Superrenches"; 2 each of Nos. 1090, 1090D and 1092F, covering every tappet size from 7/16 in. to 1 1/16 in. Cares for 80% of all passenger cars, buses and trucks.

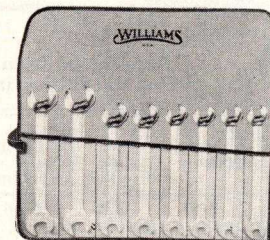
See Table above for individual Wrench Opening and Bolt Size Tabulation.

SET No. 1042

In Leatherette Roll

In Cardboard Box

Weight, 1.9 Lbs.



Eight "Superrenches"; 2 each of Nos. 1090, 1090D, 1092F and 1094, provide comprehensive service for tappet adjustment. Cover practically all passenger cars, buses and trucks. An ideal set for the automobile mechanic.

♦ REGISTERED TRADE MARK

WILLIAMS' ♦ "SUPERRENCHES"

Selected Alloy Steel

EXTRA LONG, THIN TAPPET PATTERN—15° Angle



All auto mechanics will want these extra long (15 inch) Tappet Wrenches for convenient reach over hot manifolds. Slender and light for easy adjustment, with narrow jaws for close places. The range of openings—3/8 to 5/8"—provides comprehensive service for practically every make of car, including late models. All heads 3/16" thick.

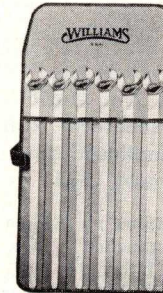
Sold individually and in sets.

Drop-forged from special Selected Alloy Steel, and heat-treated for maximum strength. Cadmium-plated.

No.	Nominal Opening	Amer. Std. Hex Head Cap Screw	Amer. Std. Light Nut (S.A.E.)	Amer. Std. Regular Nut	Weight Each, Lbs.
A100C	3/8	3/16			.32
A100	7/16	1/4	1/4	1/4	.32
A100A	1/2	5/16	5/16		.32
A100B	9/16	3/8	3/8	5/16	.32
A101	5/8	7/16	7/16	3/8	.36

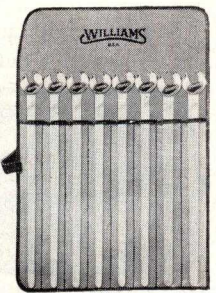
WILLIAMS' TAPPET ♦ "SUPERRENCH" SETS

Selected Alloy Steel



These extra long, thin Wrenches are specially designed for tappet adjustment; their length is ample to prevent burning the hands when the motor is hot.

The 15° angle of opening is unequalled in efficiency.



Drop-forged from special Selected Alloy Steel and heat-treated. Cadmium-plated.

SET No. 106

In Leatherette Roll

In Cardboard Box

Weight, 2 Lbs.

6 wrenches; 2 each of Nos. A100A, A100B and A101, described above

See Table above for Individual Wrench Opening and Bolt Size Tabulation.

SET No. 108

In Leatherette Roll

In Cardboard Box

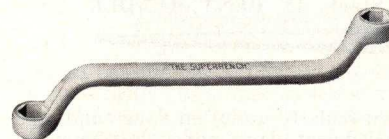
Weight, 2.7 Lbs.

8 wrenches; 2 each of Nos. A100, A100A, A100B and A101, described above

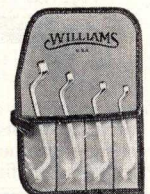
WILLIAMS' MIDGET ♦ "SUPERRENCHES"

Selected Alloy Steel

6-POINT BOX MIDGET PATTERN



Midget Double Offset Box "Superrenches" are ideal for carburetor, electrical and ignition work. Offset design clears small obstructions where working space is limited. Selected Alloy Steel, heat-treated, chrome-plate over nickel, heads bright. Sold individually or in Set No. 1154S.



SET No. 1154S

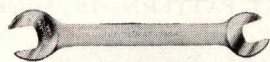
In Leatherette Roll

In Cardboard Box

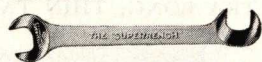
Weight, .19 Lb.

No.	Nominal Openings	Extreme Length	Weight Lbs.	No.
1150	13/64 & 3/16	2 7/8	.02	1150
1151	15/64 & 7/32	3 1/8	.03	1151
1152	9/32 & 1/4	3 3/8	.04	1152
1153	11/32 & 5/16	3 3/4	.06	1153

WILLIAMS' MIDGET "SUPERRENCHES"
Selected Alloy Steel
OPEN END PATTERN



15° Angle Openings

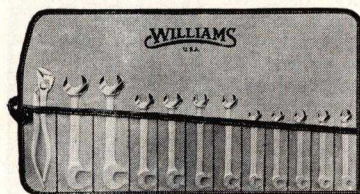


15° and 75° Angle Openings

Midget "Superrenches" are unusually thin and slim, but surprisingly tough and strong. Forged from Selected Alloy Steel, heat-treated, chrome-plate over nickel, faces bright.

No.	Nominal Openings	Extreme Length	Thickness Heads	Weight Lbs.
15° ANGLE OPENING				
1106	13/64 & 7/32	3	3/32	.01
1107	15/64 & 1/4	3	3/32	.01
1108	9/32 & 11/32	3 1/2	1/8	.03
1108A	1/4 & 5/16	3 1/2	1/8	.03
1109	5/16 & 3/8	3 1/2	1/8	.03
15-75° ANGLE OPENING				
1112	3/16 & 3/16	3	3/32	.01
1113	13/64 & 13/64			.01
1114	7/32 & 7/32			.01
1115	15/64 & 15/64			.01
1116	1/4 & 1/4	3 3/4	1/8	.01
1118	9/32 & 9/32			.02
1120	5/16 & 5/16			.02
1122	11/32 & 11/32			.03
1124	3/8 & 3/8	4 1/2	5/32	.03
1128	7/16 & 7/16			.06
1132	1/2 & 1/2			.06

WILLIAMS' MIDGET "SUPERRENCH" SETS
Selected Alloy Steel



SET No. 1141P
In Leatherette Roll
In Cardboard Box
Weight, .5 Lb.

Contains 11 Midget "Superrenches" Nos. 1112, 1113, 1114, 1115, 1116, 1118, 1120, 1122, 1124, 1128, 1132 and 1519 Midget "Superplier".

SET No. 1149P
With 1519
"Superplier"
In
Leatherette Roll
In Cardboard Box
Weight, .25 Lb.



SET No. 1149
Without 1519
"Superplier"
In
Leatherette Roll
In Cardboard Box
Weight, .13 Lb.

Handy assortment of 5 Midget "Superrenches" Nos. 1106, 1107, 1108, 1108A, 1109 and 1519 "Superplier".

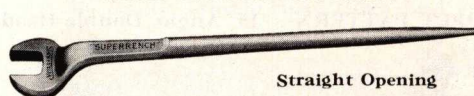
WILLIAMS' "SUPERRENCHES"
15° ANGLE CONSTRUCTION PATTERN
Selected Alloy Steel—45° BENT HANDLE



These wrenches are particularly useful on flange and pipe line work in refineries, chemical plants and industries using processing equipment. Drop-forged from Selected Alloy Steel, heat-treated and finished in baked gray enamel all over.

No.	Nominal Opening	U. S. Std. Nut; Size Bolt	S.A.E. Std. Nut. and Cap Screw	Amer. Std. Regular Nut; Size Bolt	Extreme Length, Approx.	Weight Each, Lbs.
X-1205	7/8	1/2	9/16	9/16	14	1.
X-1206B	1	5/8	3/4	5/8	14	1.
X-1207	1 1/16	5/8	3/4	5/8	16 1/2	1.8
X-1207A	1 1/8	5/8	3/4	5/8	16 1/2	1.8
X-1208	1 1/4	3/4	7/8	5/8	18 1/2	2.7
X-1209	1 7/16	7/8	1	5/8	20 3/8	3.6
X-1209A	1 1/2	7/8	1	5/8	20 3/8	3.6
X-1210	1 5/8	1	1 1/8	5/8	22 1/4	5.1
X-1211	1 13/16	1 1/8	1 1/4	5/8	24	7.
X-1212	2	1 1/4	1 3/8	5/8	24	7.

WILLIAMS' "SUPERRENCHES"
Selected Alloy Steel
STRUCTURAL PATTERN

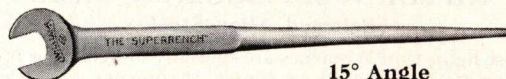


Straight Opening

These wrenches have been made especially to meet the needs of structural workers. The long, narrow jaws give substantially full bearing on square nuts. The round handle has tapered end for easy insertion into bolt holes when bringing same into line. Drop-forged from Selected Alloy Steel, heat-treated and finished in baked gray enamel all over.

No.	Nominal Opening	For U. S. Std. Nut; Size Bolt	Amer. Std. Regl. Nut; Size Bolt	Ex-treme Length, Approx.	Thick-ness Head	Handle Offset		Wgt. Each, Lbs.
						At Head	At End	
1905	7/8	1/2	9/16	14 1/2	17/32	1	1 7/8	1.2
1906B	1	5/8	3/4	14 1/2	17/32	1	1 7/8	1.2
1907	1 1/16	5/8	3/4	17	5/8	1 1/8	2 3/8	1.9
1907A	1 1/8	5/8	3/4	17	5/8	1 1/8	2 3/8	1.9
1908	1 1/4	3/4	7/8	19	11/16	1 1/4	2 3/4	2.8
1908A	1 5/16	7/8	7/8	19	11/16	1 1/4	2 3/4	2.8
1909	1 7/16	7/8	1	21	3/4	1 3/8	3 1/16	4.1
1909A	1 1/2	7/8	1	21	3/4	1 3/8	3 1/16	4.1
1910	1 5/8	1	1 1/8	23	13/16	1 1/2	3 3/8	5.6
1910A	1 11/16	1	1 1/8	23	13/16	1 1/2	3 3/8	5.6
1911	1 13/16	1 1/8	1 1/4	25	7/8	1 5/8	3 11/16	7.9
1911A	1 7/8	1 1/8	1 1/4	25	7/8	1 5/8	3 11/16	7.9
1912	2	1 1/4	1 3/8	25	7/8	1 5/8	3 11/16	7.9

WILLIAMS' "SUPERRENCHES"
Selected Alloy Steel
CONSTRUCTION PATTERN



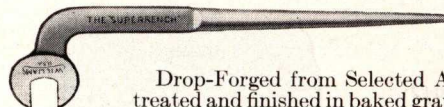
15° Angle

The slim design provides ample strength and leverage without unnecessary weight and bulk. Long, narrow jaws give substantially full bearing on square nuts. Especially adapted to heavy automotive work, where unusual leverage is required.

Drop-Forged from Selected Alloy Steel, heat-treated and finished in baked gray enamel all over.

No.	Nominal Opening	U. S. Std. Nut; Size Bolt	S.A.E. Std. Nut and CapScrew	Amer. Std. Regular Nut; Size Bolt	Extreme Length, Approx.	Weight Each, Lbs.
1205	7/8	1/2	9/16	9/16	14 1/2	1.
1206B	1	5/8	3/4	5/8	14 1/2	1.
1207	1 1/16	5/8	3/4	5/8	17	1.8
1207A	1 1/8	5/8	3/4	5/8	17	1.8
1208	1 1/4	3/4	7/8	5/8	19	2.7
1208A	1 5/16	7/8	7/8	5/8	19	2.7
1209	1 7/16	7/8	1	5/8	21	3.6
1209A	1 1/2	7/8	1	5/8	21	3.6
1210	1 5/8	1	1 1/8	5/8	23	5.1
1211	1 13/16	1 1/8	1 1/4	5/8	25	7.
1212	2	1 1/4	1 3/8	5/8	25	7.

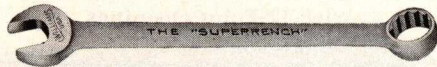
WILLIAMS' "SUPERRENCHES"
15° ANGLE CONSTRUCTION PATTERN
Selected Alloy Steel—90° BENT HANDLE



Drop-Forged from Selected Alloy Steel, heat-treated and finished in baked gray enamel all over.

No.	Nominal Opening	U. S. Std. Nut; Size Bolt	S.A.E. Std. Nut and CapScrew	Amer. Std. Regular Nut; Size Bolt	Extreme Length, Approx.	Weight Each, Lbs.
Z-1205	7/8	1/2	9/16	9/16	12	1.
Z-1206B	1	5/8	3/4	5/8	12	1.
Z-1207	1 1/16	5/8	3/4	5/8	14 5/8	1.8
Z-1207A	1 1/8	5/8	3/4	5/8	14 5/8	1.8
Z-1208	1 1/4	3/4	7/8	5/8	16 3/8	2.7
Z-1209	1 7/16	7/8	1	5/8	17 7/8	3.6
Z-1209A	1 1/2	7/8	1	5/8	17 7/8	3.6
Z-1210	1 5/8	1	1 1/8	5/8	19 1/2	5.1
Z-1211	1 13/16	1 1/8	1 1/4	5/8	21	7.
Z-1212	2	1 1/4	1 3/8	5/8	21	7.

WILLIAMS' ♦ "SUPERRENCHES" Selected Alloy Steel OPEN END-BOX PATTERN



These long, slender "Superrenches", combining two styles of head are designed especially for use in close quarters and tight corners.

Open end is thin, with slim jaws and opening at angle of 15°.

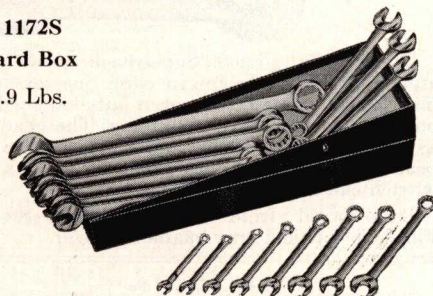
Box end, with 12-point opening and thin walls, is offset from plane of handle; see illustration. Same size opening in both heads. Drop-forged from Selected Alloy Steel, heat-treated, chrome-plated; faces of open end buffed.

Sold individually and in Sets.

No.	Nominal Openings	Amer. Std. Heavy Nuts (U.S.S.) Size Bolts	Amer. Std. Hex Head Cap Screws; Diam. Screws	Amer. Std. Light Nuts (S.A.E.) Size Bolts	Amer. Std. Regl. Nuts; Size Bolts	Ex-treme Length, Approx.	Wgt. Each, Lbs.
1158	1/4 & 1/4				*No. 4	3 5/8	.05
1159	5/16 & 5/16	1/8	1/8			4 3/8	.05
1159A	11/32 & 11/32				*No. 8	4 3/8	.08
1160	3/8 & 3/8		3/16			5	.09
1161	7/16 & 7/16		1/4	1/4	1/4	5 3/8	.13
1162	1/2 & 1/2	1/4	5/16	5/16		6	.21
1163	9/16 & 9/16	3/8	3/8	3/8	5/16	6 3/4	.21
1163A	19/32 & 19/32	5/16				6 3/4	.21
1164	5/8 & 5/8		7/16	7/16	3/8	7 5/8	.28
1165	11/16 & 11/16	3/8				8 1/2	.38
1166	3/4 & 3/4		1/2	1/2	7/16	9 1/2	.5
1166A	25/32 & 25/32	7/16				9 1/2	.5
1167A	13/16 & 13/16		9/16	9/16	1/2	10 1/2	.75
1167	7/8 & 7/8	1/2	5/8	5/8	9/16	10 1/2	.75
1168	15/16 & 15/16	9/16				13	1.1
1170	1 & 1		3/4	3/4	5/8	13	1.1
1171	1 1/16 & 1 1/16	5/8				15	1.8
1172	1 1/8 & 1 1/8		7/8	7/8	3/4	15	1.6
1173	1 1/4 & 1 1/4	3/4				18	2.6
1174	1 5/16 & 1 5/16		1	1	7/8	18	2.6
1176A	1 3/8 & 1 3/8					21	4.
1176	1 7/16 & 1 7/16	7/8				21	3.9
1178	1 1/2 & 1 1/2		1 1/8	1 1/8	1	23	4.5
1180	1 5/8 & 1 5/8	1				25	

WILLIAMS' ♦ "SUPERRENCH" SETS Selected Alloy Steel OPEN END-BOX PATTERN

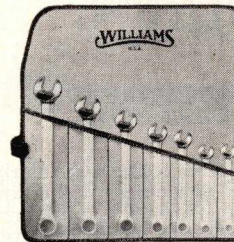
SET No. 1172S
In Cardboard Box
Weight, 12.9 Lbs.



No.	Nominal Openings	Amer. Std. Heavy Nuts (U.S.S.)	Amer. Std. Hex Hd. Cap Screw	Amer. Std. Light Nuts (S.A.E.)	Amer. Std. Regular Nuts	Ex-treme Length, Approx.
1159	5/16 & 5/16	1/8	1/8			4 3/8
1159A	11/32 & 11/32				*No. 8	4 3/8
1160	3/8 & 3/8		3/16			5
1161	7/16 & 7/16		1/4	1/4	1/4	5 3/8
1162	1/2 & 1/2	1/4	5/16	5/16		6
1163	9/16 & 9/16	3/8	3/8	3/8	5/16	6 3/4
1163A	19/32 & 19/32	5/16				6 3/4
1164	5/8 & 5/8		7/16	7/16	3/8	7 5/8
1165	11/16 & 11/16	3/8				8 1/2
1166	3/4 & 3/4		1/2	1/2	7/16	9 1/2
1166A	25/32 & 25/32	7/16				9 1/2
1167	7/8 & 7/8	1/2	5/8	5/8	9/16	10 1/2
1167A	13/16 & 13/16		9/16	9/16	1/2	10 1/2
1168	15/16 & 15/16	9/16				13
1170	1 & 1		3/4	3/4	5/8	13
1171	1 1/16 & 1 1/16	5/8				15
1172	1 1/8 & 1 1/8		7/8	7/8	3/4	15
1173	1 1/4 & 1 1/4	3/4				18

♦ REGISTERED TRADE MARK

WILLIAMS' ♦ "SUPERRENCH" SETS Selected Alloy Steel OPEN END-BOX PATTERN



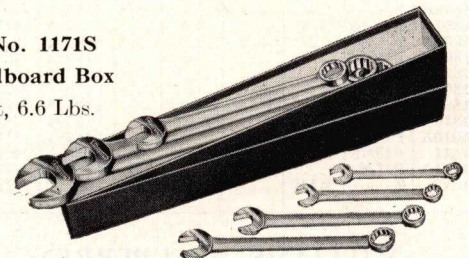
SET No. 1170S
In Leatherette Roll
In Cardboard Box
Weight, 2.2 Lbs.

SET No. 1173S
In Leatherette Roll
In Cardboard Box
Weight, 1 Lb.

No.	Nominal Openings	Amer. Std. Heavy Nuts (U.S.S.)	Amer. Std. Hex Hd. Cap Screw	Amer. Std. Light Nuts (S.A.E.)	Amer. Std. Regular Nuts	Ex-treme Length, Approx.
1161	7/16 & 7/16		1/4	1/4	1/4	5 3/8
1162	1/2 & 1/2	1/4	5/16	5/16		6
1163	9/16 & 9/16		3/8	3/8	5/16	6 3/4
1164	5/8 & 5/8		7/16	7/16	3/8	7 5/8
1166	3/4 & 3/4		1/2	1/2	7/16	9 1/2
1167	7/8 & 7/8	1/2	5/8	5/8	9/16	10 1/2

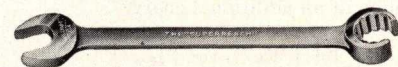
1159	5/16 & 5/16	1/8	1/8			4 3/8
1159A	11/32 & 11/32				*No. 8	4 3/8
1160	3/8 & 3/8		3/16			5
1161	7/16 & 7/16		1/4	1/4	1/4	5 3/8
1162	1/2 & 1/2	1/4	5/16	5/16		6
1163	9/16 & 9/16	3/8	3/8	3/8	5/16	6 3/4
1164	5/8 & 5/8		7/16	7/16	3/8	7 5/8

SET No. 1171S
In Cardboard Box
Weight, 6.6 Lbs.



No.	Nominal Openings	Amer. Std. Heavy Nuts (U.S.S.)	Amer. Std. Hex Hd. Cap Screw	Amer. Std. Light Nuts (S.A.E.)	Amer. Std. Regular Nuts	Ex-treme Length, Approx.
1162	1/2 & 1/2	1/4	5/16	5/16		6
1163A	19/32 & 19/32	5/16				6 3/4
1165	11/16 & 11/16	3/8				8 1/2
1166A	25/32 & 25/32	7/16				9 1/2
1167	7/8 & 7/8	1/2	5/8	9/16	9/16	10 1/2
1171	1 1/16 & 1 1/16	5/8		3/4		15
1173	1 1/4 & 1 1/4	3/4		7/8		18

WILLIAMS' ♦ "SUPERRENCHES" Selected Alloy Steel FLARE NUT PATTERN



Open box end, has a 12-point opening offset 15° from plane of handle with a tube opening slot at 22-1/2° to the axis of the handle. Open end is thin, with slim jaws and opening at angle of 15°. Drop-forged from Selected Alloy Steel, heat-treated and chrome plated, heads buffed.

No.	OPEN END		OPEN-BOX END			Ex-treme Length, Approx.	Weight Each, Lbs.
	Nominal Opening	Thick-ness Head	Nominal Opening	Out-side Diam.	Thick-ness Head		
1312	3/8	3/16	3/8	21/32	5/16	1/4	.07
1314	7/16	13/64	7/16	25/32	11/32	9/32	.1
1316	1/2	7/32	1/2	29/32	7/16	3/8	.17
1318	9/16	15/64	9/16	31/32	7/16	7/16	.19
1320	5/8	1/4	5/8	1 1/64	1/2	15/32	.25
1322	11/16	5/16	11/16	1 9/32	9/16	9/16	.44
1324	3/4	5/16	3/4	1 9/32	9/16	9/16	.54
1328	7/8	11/32	7/8	1 7/16	5/8	11/16	.69
1332	1	3/8	1	1 19/32	11/16	3/4	
1334	1 1/16	7/16	1 1/16	1 25/32	3/4	27/32	1.
1336	1 1/8	7/16	1 1/8	1 25/32	3/4	27/32	1.

* Amer. Std. Machine Screw and Stove Bolt Nuts.

See page 68 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.

WILLIAMS' ♦ "SUPERRENCHES"

Selected Alloy Steel

REGULAR 12-POINT BOX PATTERN

12-Point Opening — 7-1/2° Angle



These "Superrenches" with thin head walls, are particularly efficient in close quarters and for general service. Will rotate hex nuts where the wrench can be swung only 15°. Drop-forged from Selected Alloy Steel—heat-treated. Chrome-plate over nickel, heads bright. Handle can be bent above head at angles of 45° to 90° from opening, at an additional charge.

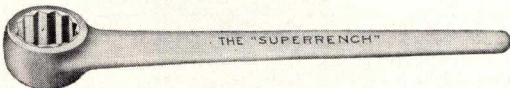
No.	Nominal Opening Across Flats	For Amer. Std. Heavy Nut (USS); Size Bolt	For Amer. Std. Hx. Hd. Cap Screw; Diam. Screw	For Amer. Std. Light Nut (SAE); Size Bolt	For Amer. Std. Regl. Nut; Size Bolt	Ex-treme Length Approx.	Head		Wgt. Each, Lbs.
							Thick-ness	Out-side Diam.	
1800A	7/16	.....	1/4	1/4	1/4	3 1/2	7/32	45/64	.07
1801	1/2	1/4	5/16	5/16	.....	4	17/64	27/32	.11
1802A	9/16	.....	3/8	3/8	5/16	4 7/8	5/16	31/32	.19
1802	19/32	5/16	.....	.....	.....	4 7/8	5/16	63/64	.19
1803A	5/8	.....	7/16	7/16	3/8	5 7/8	23/64	1 1/16	.31
1803	11/16	3/8	.....	.....	.....	5 7/8	23/64	1 9/64	.31
1804A	3/4	.....	1/2	1/2	7/16	6 7/8	13/32	1 1/4	.36
1804	25/32	7/16	.....	.....	.....	6 7/8	13/32	1 9/32	.36
1805A	13/16	.....	9/16	.....	1/2	7 3/4	29/64	1 23/64	.45
1805	7/8	1/2	5/8	9/16	9/16	7 3/4	29/64	1 27/64	.45
1806	15/16	9/16	.....	5/8	.....	8 3/4	1/2	1 19/32	.68
1806B	1	.....	3/4	.....	5/8	8 3/4	1/2	1 19/32	.68
1807	1 1/16	5/8	.....	3/4	.....	9 7/8	9/16	1 25/32	.89
1807A	1 1/8	.....	7/8	.....	3/4	9 7/8	9/16	1 25/32	.89
1808	1 1/4	3/4	.....	7/8	.....	11 1/2	9/16	2 1/16	1.5
1808A	1 5/16	.....	1	.....	7/8	11 1/2	9/16	2 1/16	1.5
1809	1 7/16	7/8	.....	1	.....	13 3/8	21/32	2 3/8	1.9
1809A	1 1/2	.....	1 1/8	.....	1	13 3/8	21/32	2 3/8	1.9
1810	1 5/8	1	.....	1 1/8	.....	15 1/4	3/4	2 5/8	2.9
1810A	1 11/16	.....	1 1/4	.....	1 1/8	15 1/4	3/4	2 5/8	2.9
1811	1 13/16	1 1/8	.....	1 1/4	.....	17	13/16	2 29/32	3.1
1811A	1 7/8	.....	1 1/4	.....	1 1/4	17	13/16	2 29/32	3.1
1812	2	1 1/4	.....	1 3/8	.....	19	15/16	3 1/4	4.3

WILLIAMS' ♦ "SUPERRENCHES"

Selected Alloy Steel

HEAVY 12-POINT BOX PATTERN

12-Point Opening — 7-1/2° Angle



These "Superrenches" with thin head walls, grip nuts on six sides and prevent slipping. Will rotate hex nuts where the wrench can be swung only 15°. Drop-forged from Selected Alloy Steel—heat-treated. Chrome-plate over nickel, heads bright. Handle can be bent above head at angles of 45° to 90° from opening, at an additional charge.

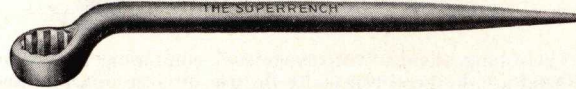
No.	Nominal Opening Across Flats	For Amer. Std. Heavy Nut (USS); Size Bolt	For Amer. Std. Hx. Hd. Cap Screw; Diam. Screw	For Amer. Std. Light Nut (SAE); Size Bolt	For Amer. Std. Regl. Nut; Size Bolt	Ex-treme Length Approx.	Head		Wt. Ea. Lbs.
							Thick-ness	Out-side Diam.	
H1808	1 1/4	3/4	.....	7/8	.....	11 1/2	13/16	2 1/16	1.6
H1808A	1 5/16	.....	1	.....	7/8	11 1/2	13/16	2 1/16	1.6
H1809	1 7/16	7/8	.....	1	.....	13 3/8	15/16	2 3/8	2.3
H1809A	1 1/2	.....	1 1/8	.....	1	13 3/8	15/16	2 3/8	2.3
H1810	1 5/8	1	.....	1 1/8	.....	15 1/4	1 1/8	2 5/8	3.1
H1810A	1 11/16	.....	1 1/4	.....	1 1/8	15 1/4	1 1/8	2 5/8	3.1
H1811	1 13/16	1 1/8	.....	1 1/4	.....	17	1 1/4	2 15/16	3.8
H1811A	1 7/8	.....	1 1/4	.....	1 1/4	17	1 1/4	2 15/16	3.8
H1812	2	1 1/4	.....	1 3/8	.....	19	1 3/8	3 1/4	5.4
H1813	2 3/16	1 3/8	.....	1 1/2	.....	21	1 1/2	3 1/2	6.5
H1813A	2 1/4	.....	.....	1 1/2	.....	21	1 1/2	3 1/2	6.5
H1814	2 3/8	1 1/2	.....	.....	1 1/2	23	1 5/8	3 3/4	7.8
H1815	2 9/16	1 5/8	.....	.....	.....	25	1 3/4	4 1/8	10.3
H1815A	2 5/8	.....	.....	.....	1 3/4	25	1 3/4	4 1/8	10.3
H1816	2 3/4	1 3/4	.....	.....	.....	27	1 7/8	4 9/16	12.5
H1817A	3	.....	.....	.....	2	30	2	4 13/16	16.3
H1817	3 1/8	2	.....	.....	.....	30	2	4 13/16	16.3

WILLIAMS' ♦ "SUPERRENCHES"

Selected Alloy Steel

STRUCTURAL BOX PATTERN

With 12-Point Openings



The long sturdy tapered handle provides ample strength and leverage, and can easily be inserted into bolt holes to bring them into line.

Drop-forged from Selected Alloy Steel, heat-treated, and finished in baked gray enamel all over.

No.	Nominal Opening	Amer. Std. Heavy Nut (USS); Size Bolt	Ex-treme Length, Approx.	Head		Handle Offset		Wt. Ea. Lbs.
				Thick-ness	Out-side Diam.	At Head	At End	
8905A	13/16	.....	12	5/8	1 15/32	1 1/8	1 25/32	1.2
8905	7/8	1/2	12	5/8	1 15/32	1 1/8	1 25/32	1.2
8906	15/16	9/16	12	3/4	1 5/8	1 1/4	1 61/64	1.4
8906B	1	.....	12	3/4	1 5/8	1 1/4	1 61/64	1.4
8907	1 1/16	5/8	15	13/16	1 53/64	1 5/16	2 9/64	2.1
8907A	1 1/8	.....	15	13/16	1 53/64	1 5/16	2 9/64	2.1
8908	1 1/4	3/4	17	7/8	2 5/64	1 7/16	2 21/64	2.5
8908A	1 5/16	.....	17	7/8	2 5/64	1 7/16	2 21/64	2.5
8909	1 7/16	7/8	21	1	2 3/8	1 1/2	2 3/4	3.8
8909A	1 1/2	.....	21	1	2 3/8	1 1/2	2 3/4	3.8
8910	1 5/8	1	22	1 1/16	2 5/8	1 5/8	2 7/8	4.6
8910A	1 11/16	.....	22	1 1/16	2 5/8	1 5/8	2 7/8	4.6
8911	1 13/16	1 1/8	23	1 1/8	2 29/32	1 11/16	3	5.8
8911A	1 7/8	.....	23	1 1/8	2 29/32	1 11/16	3	5.8
8912	2	1 1/4	24 1/2	1 1/4	3 5/32	1 13/16	3 5/32	6.5
8913	2 3/16	1 3/8	26	1 3/8	3 15/32	2	3 1/2	8.4
8914	2 3/8	1 1/2	28	1 1/2	3 23/32	2 1/8	3 11/16	9.5
8915	2 9/16	1 5/8	30	1 5/8	3 29/32	2 1/4	3 13/16	10.6
8916	2 3/4	1 3/4	30	1 3/4	4 5/32	2 3/8	3 29/32	12.1

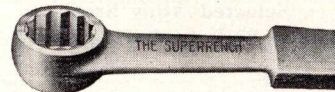
NOTE: These Wrenches can be supplied with heads bent up to 90° right or left of handle at extra charge.

WILLIAMS' ♦ "SUPERRENCHES"

Selected Alloy Steel

HEAVY STRIKING FACE 12-POINT BOX PATTERN

12-Point Opening — 7-1/2° Angle



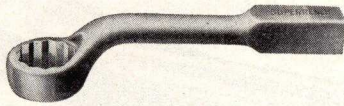
These Striking Face "Superrenches," with thin head walls, are particularly efficient in close quarters where large nuts must be set up tight, or frozen nuts loosened. They grip nuts on six sides and prevent slipping. The heads, approximately as thick as the nuts they handle, afford extra strength and full bearing in severe service. Will rotate hex nuts where the wrench can be swung only 15°.

Drop-forged from Selected Alloy Steel—heat-treated. Finished in baked gray enamel all over.

No.	Nominal Opening Across Flats	For Amer. Std. Heavy Nut (USS); Size Bolt	For Amer. Std. Hx. Hd. Cap Screw; Diam. Screw	For Amer. Std. Light Nut (SAE); Size Bolt	For Amer. Std. Regl. Nut; Size Bolt	Ex-treme Length, Approx.	Head		Wt. Ea. Lbs.
							Thick-ness	Out-side Diam.	
SFH-1808	1 1/4	3/4	.....	7/8	.....	7	13/16	2 1/16	1.4
SFH-1808A	1 5/16	.....	1	.....	7/8	7	13/16	2 1/16	1.4
SFH-1809	1 7/16	7/8	.....	1	.....	8	15/16	2 3/8	2.1
SFH-1809A	1 1/2	.....	1 1/8	.....	1	8	15/16	2 3/8	2.1
SFH-1810	1 5/8	1	.....	1 1/8	.....	9	1 1/8	2 5/8	3.1
SFH-1810A	1 11/16	.....	1 1/4	.....	1 1/8	9	1 1/8	2 5/8	3.1
SFH-1811	1 13/16	1 1/8	.....	1 1/4	.....	10	1 1/4	2 15/16	3.9
SFH-1811A	1 7/8	.....	1 1/4	.....	1 1/4	10	1 1/4	2 15/16	3.9
SFH-1812	2	1 1/4	.....	1 3/8	.....	11	1 3/8	3 1/4	5.5
SFH-1813	2 3/16	1 3/8	.....	1 1/2	.....	12	1 1/2	3 1/2	6.8
SFH-1813A	2 1/4	.....	.....	1 1/2	.....	12	1 1/2	3 1/2	6.8
SFH-1814	2 3/8	1 1/2	.....	.....	1 1/2	13	1 5/8	3 3/4	8.2
SFH-1815	2 9/16	1 5/8	.....	.....	.....	14	1 3/4	4 1/8	10.8
SFH-1815A	2 5/8	.....	.....	.....	1 3/4	14	1 3/4	4 1/8	10.8
SFH-1816	2 3/4	1 3/4	.....	.....	.....	15	1 7/8	4 9/16	13.5
SFH-1817A	3	.....	.....	.....	2	17	2	4 13/16	18.2
SFH-1817	3 1/8	2	.....	.....	.....	17	2	4 13/16	18.2

DROP - FORGINGS AND WILLIAMS DROP - FORGED TOOLS

WILLIAMS' ♦ "SUPERRENCHES" Selected Alloy Steel STRIKING FACE BOX — OFFSET PATTERN With 12-Point Openings



The Striking Face Box "Superrench" is particularly well adapted for heavy industrial and automotive work in close quarters where large nuts must be set up tight or frozen nuts loosened.

Offset head gives ample nut clearance. Drop-forged from Selected Alloy Steel, properly heat-treated to withstand the necessary shocks. Finished in baked gray enamel all over.

No.	Nominal Opening	Amer. Std. Heavy Nut (USS); Size Bolt	Amer. Std. Light Nut (SAE); Size Bolt	Amer. Std. Reglr. Nut; Size Bolt	Ex-treme Length, Approx.	Head		Wgt. Each, Lbs.
						Thick-ness	Out-side Diam.	
8807	1 1/16	5/8	3/4		10 1/2	13/16	1 27/32	2.2
8807A	1 1/8			3/4	10 1/2	13/16	1 27/32	2.2
8808	1 1/4	3/4	7/8		11	7/8	2 3/32	2.6
8808A	1 5/16			7/8	11	7/8	2 3/32	2.6
8809	1 7/16	7/8	1		11 1/2	1	2 3/8	3.6
8809A	1 1/2			1	11 1/2	1	2 3/8	3.6
8810	1 5/8	1	1 1/8		12	1 1/16	2 5/8	3.9
8810A	1 11/16			1 1/8	12	1 1/16	2 5/8	3.9
8811	1 13/16	1 1/8	1 1/4		12 1/2	1 1/8	2 29/32	5.4
8811A	1 7/8			1 1/4	12 1/2	1 1/8	2 29/32	5.4
8812	2	1 1/4	1 3/8		13	1 1/4	3 5/32	5.5
8813	2 3/16	1 3/4	1 1/2		13 1/2	1 3/8	3 15/32	7.2
8813A	2 1/4			1 1/2	13 1/2	1 3/8	3 15/32	7.2
8814	2 3/8	1 1/2			14 1/2	1 1/2	3 23/32	7.9
8815	2 9/16	1 5/8			14 1/2	1 5/8	3 29/32	9.7
8815A	2 5/8			1 3/4	14 1/2	1 5/8	3 29/32	9.7
8816	2 3/4	1 3/4			15	1 3/4	4 5/32	10.8
8816B	2 15/16	1 7/8			16	1 7/8	4 21/32	10.8
8817A	3			2	16 1/2	2	4 15/16	11.9
8817	3 1/8				16 1/2	2	4 15/16	11.9

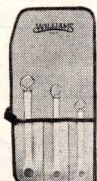
WILLIAMS' 12-POINT BOX ♦ "SUPERRENCHES" Selected Alloy Steel 15° ANGLE SHORT OFFSET PATTERN



Drop-forged from Selected Alloy Steel, heat-treated, chrome-plate over nickel, heads bright.

No.	Nominal Openings	Amer. Std. Heavy Nuts (USS); Size Bolts	Amer. Std. Hex Head Cap Screws; Diam. Screws	Amer. Std. Light Nuts (SAE); Size Bolts	Amer. Std. Regular Nuts; Size Bolts	Ex-treme Length, Approx.	Wgt. Each, Lbs.
6723	3/8 & 7/16		3/16 & 1/4	1/4	1/4	4 1/2	.08
6725	7/16 & 1/2	1/4	1/4 & 5/16	1/4 & 5/16	1/4	5 1/2	.11
6725A	7/16 & 9/16		1/4 & 3/8	1/4 & 3/8	1/4 & 5/16	5 1/2	.14
6725B	1/2 & 9/16	1/4	5/16 & 3/8	5/16 & 3/8	5/16	5 1/2	.14
6025	1/2 & 19/32	1/4 & 5/16	5/16	5/16		5 1/2	.14
6727	9/16 & 5/8		3/8 & 7/16	3/8 & 7/16	5/16 & 3/8	6	.18

WILLIAMS' 12-POINT BOX ♦ "SUPERRENCH" SETS Selected Alloy Steel



SET No. 6703

In Leatherette Roll
In Cardboard Box
Weight, .44 Lb.

CONTENTS

No.	Nominal Openings	Amer. Std. Heavy Nuts (U.S.S.)	Amer. Std. Hex Head Cap Screws	Amer. Std. Light Nuts (S.A.E.)	Amer. Std. Regular Nuts	Length Approx.
6723	3/8 & 7/16		3/16 & 1/4	1/4	1/4	4 1/2
6725	7/16 & 1/2	1/4	1/4 & 5/16	1/4 & 5/16	1/4	5 1/2
6727	9/16 & 5/8		3/8 & 7/16	3/8 & 7/16	5/16 & 3/8	6

♦ REGISTERED TRADE MARK

WILLIAMS' 12-POINT BOX ♦ "SUPERRENCHES" Selected Alloy Steel 15° ANGLE LONG OFFSET PATTERN

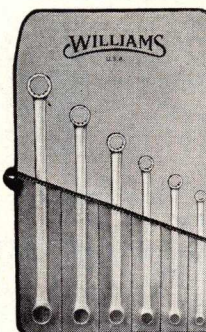


Thin head walls permit use where clearance is extremely limited. The openings grip hex nuts on six sides, preventing all slipping and rounding of the nuts' corners. Hex nuts can be completely rotated where the swing of the wrench is limited to 30°.

Drop-forged from Selected Alloy Steel, heat-treated, chrome-plate over nickel, heads bright.

No.	Nominal Openings	Amer. Std. Heavy Nuts (USS); Size Bolts	Amer. Std. Hex Head Cap Screws; Diam. Screws	Amer. Std. Light Nuts (SAE); Size Bolts	Amer. Std. Regular Nuts; Size Bolts	Ex-treme Length, Approx.	Wgt. Each, Lbs.
7723	3/8 & 7/16		3/16 & 1/4	1/4	1/4	7 3/8	.13
7723	1/2 & 9/16	1/4	5/16 & 3/8	5/16 & 3/8	5/16	8 1/4	.16
7725	7/16 & 1/2	1/4	5/16 & 3/8	5/16 & 3/8	5/16	8 1/4	.16
7725A	1/2 & 9/16	1/4	5/16 & 3/8	5/16 & 3/8	5/16	8 1/4	.22
7725B	1/2 & 9/16	1/4	5/16 & 3/8	5/16 & 3/8	5/16	8 1/4	.22
7725	1/2 & 9/16	1/4	5/16 & 3/8	5/16 & 3/8	5/16	8 1/4	.22
7727	9/16 & 5/8		3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	9 1/4	.31
7727	1 1/16 & 1 1/8	1/2	7/8 & 1	7/8 & 1	7/8 & 1	10 1/2	.51
7727A	1 1/8 & 1 1/4	3/4	1 1/8 & 1 1/4	1 1/8 & 1 1/4	1 1/8 & 1 1/4	10 1/2	.48
7729	1 1/4 & 1 1/2	1	1 1/4 & 1 1/2	1 1/4 & 1 1/2	1 1/4 & 1 1/2	10 1/2	.48
7729B	1 1/4 & 1 1/2	1	1 1/4 & 1 1/2	1 1/4 & 1 1/2	1 1/4 & 1 1/2	10 1/2	.51
7729	1 1/4 & 1 1/2	1	1 1/4 & 1 1/2	1 1/4 & 1 1/2	1 1/4 & 1 1/2	10 1/2	.51
7729A	1 1/4 & 1 1/2	1	1 1/4 & 1 1/2	1 1/4 & 1 1/2	1 1/4 & 1 1/2	10 1/2	.51
7730	1 1/2 & 1 5/8	3/4	1 1/2 & 1 5/8	1 1/2 & 1 5/8	1 1/2 & 1 5/8	12	.66
7731A	1 5/8 & 2	1 1/2	1 5/8 & 2	1 5/8 & 2	1 5/8 & 2	12	.66
7731B	1 5/8 & 2	1 1/2	1 5/8 & 2	1 5/8 & 2	1 5/8 & 2	12	.66
7731	1 5/8 & 2	1 1/2	1 5/8 & 2	1 5/8 & 2	1 5/8 & 2	12	.66
7731B	1 5/8 & 2	1 1/2	1 5/8 & 2	1 5/8 & 2	1 5/8 & 2	12	.66
7733A	1 7/8 & 2 1/8	1 5/8	1 7/8 & 2 1/8	1 7/8 & 2 1/8	1 7/8 & 2 1/8	13 3/4	.95
7733	1 7/8 & 2 1/8	1 5/8	1 7/8 & 2 1/8	1 7/8 & 2 1/8	1 7/8 & 2 1/8	13 3/4	.95
7733C	1 7/8 & 2 1/8	1 5/8	1 7/8 & 2 1/8	1 7/8 & 2 1/8	1 7/8 & 2 1/8	13 3/4	.95
7734	2 & 2 1/4	2	2 & 2 1/4	2 & 2 1/4	2 & 2 1/4	15 1/2	1.2
7734A	2 & 2 1/4	2	2 & 2 1/4	2 & 2 1/4	2 & 2 1/4	15 1/2	1.3
7735	2 1/4 & 2 1/2	2 1/4	2 1/4 & 2 1/2	2 1/4 & 2 1/2	2 1/4 & 2 1/2	17 1/4	2.
7735A	2 1/4 & 2 1/2	2 1/4	2 1/4 & 2 1/2	2 1/4 & 2 1/2	2 1/4 & 2 1/2	17 1/4	2.
7737	2 1/2 & 2 5/8	2 1/2	2 1/2 & 2 5/8	2 1/2 & 2 5/8	2 1/2 & 2 5/8	17 1/4	1.8
7737A	2 1/2 & 2 5/8	2 1/2	2 1/2 & 2 5/8	2 1/2 & 2 5/8	2 1/2 & 2 5/8	17 1/4	1.8
7739A	2 5/8 & 3	2 5/8	2 5/8 & 3	2 5/8 & 3	2 5/8 & 3	19	2.4
7739B	2 5/8 & 3	2 5/8	2 5/8 & 3	2 5/8 & 3	2 5/8 & 3	19	2.4
7739	2 5/8 & 3	2 5/8	2 5/8 & 3	2 5/8 & 3	2 5/8 & 3	19	2.4
7739A	2 5/8 & 3	2 5/8	2 5/8 & 3	2 5/8 & 3	2 5/8 & 3	19	2.4
7740B	3 & 3 1/4	3	3 & 3 1/4	3 & 3 1/4	3 & 3 1/4	21	5.6
7741	3 & 3 1/4	3	3 & 3 1/4	3 & 3 1/4	3 & 3 1/4	23	5.6
7742B	3 1/4 & 3 1/2	3 1/4	3 1/4 & 3 1/2	3 1/4 & 3 1/2	3 1/4 & 3 1/2	23	5.6

WILLIAMS' 12-POINT BOX ♦ "SUPERRENCH" SETS Selected Alloy Steel



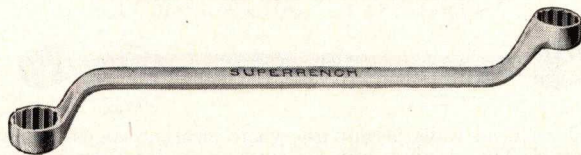
SET No. 7006

In Leatherette Roll
In Cardboard Box
Weight, 3.4 Lbs.

CONTENTS

No.	Nominal Openings	Amer. Std. Heavy Nuts (U.S.S.)	Amer. Std. Hex Head Cap Screws	Amer. Std. Light Nuts (S.A.E.)	Amer. Std. Regular Nuts	Length Approx.
7723	3/8 & 7/16		3/16 & 1/4	1/4	1/4	7 3/8
7725	7/16 & 1/2	1/4	5/16 & 3/8	5/16 & 3/8	5/16	8 1/4
7727	9/16 & 5/8		3/8 & 7/16	3/8 & 7/16	3/8 & 7/16	9 1/4
7729	1 1/4 & 1 1/2	1	1 1/4 & 1 1/2	1 1/4 & 1 1/2	1 1/4 & 1 1/2	10 1/2
7731A	1 5/8 & 2	1 1/2	1 5/8 & 2	1 5/8 & 2	1 5/8 & 2	12
7733C	1 7/8 & 2 1/8	1 5/8	1 7/8 & 2 1/8	1 7/8 & 2 1/8	1 7/8 & 2 1/8	13 3/4

WILLIAMS'
12-POINT BOX ♦ "SUPERRENCHES"
Selected Alloy Steel
DOUBLE OFFSET PATTERNS



Thin head walls permit use where clearance is extremely limited. The openings grip hex nuts on six sides, preventing all slipping and rounding of the nuts' corners. The Long Pattern provides unusual reach and leverage.

Drop-forged from Selected Alloy Steel, heat-treated, chrome-plate over nickel, heads bright. Nos. 8040B through 8053, Baked Gray enamel. Supplied in Whitworth Standard and Metric sizes also; see page 65.

No.	Nominal Openings	Amer. Std. Heavy Nuts (U.S.S.); Size Bolts	Amer. Std. Hex Hd. Cap Screws; Diam. Screws	Amer. Std. Light Nuts (S.A.E.); Size Bolts	Amer. Std. Regl. Nuts; Size Bolts	Ex-treme Length, Approx.	Wgt. Each, Lbs.
LONG PATTERN — Different Opening in Each Head							
8021	5/16 & 1/2	1/8 & 3/16	1/8	1/4	1/4	7 1/4	.18
8723	5/8 & 1 1/16	3/8 & 1/2	3/8	1/2	1/2	7 3/4	.26
8023	1 1/8 & 1 1/4	1/2 & 5/8	1/2	3/4	3/4	8 1/4	.37
8725	1 1/2 & 1 5/8	5/8 & 3/4	5/8	7/8	7/8	8 1/4	.37
8725A	1 3/4 & 1 7/8	3/4 & 7/8	3/4	1	1	8 3/4	.43
8725B	1 7/8 & 2	7/8 & 1	7/8	1 1/8	1 1/8	8 3/4	.43
8025	1 7/8 & 2 1/8	1 & 1 1/8	1	1 1/4	1 1/4	8 3/4	.43
8727	2 & 2 1/8	1 1/8 & 1 1/2	1 1/8	1 1/2	1 1/2	9 3/4	.59
8027	2 1/8 & 2 1/4	1 1/4 & 1 1/2	1 1/4	1 1/2	1 1/2	11	.84
8727A	2 1/4 & 2 1/2	1 1/2 & 1 3/4	1 1/2	1 3/4	1 3/4	11	.8
8729	2 1/2 & 2 3/4	1 3/4 & 2	1 3/4	2	2	11	.8
8029B	2 3/4 & 3	2 & 2 1/4	2	2 1/4	2 1/4	11	.84
8029	2 3/4 & 3 1/8	2 1/4 & 2 1/2	2 1/4	2 1/2	2 1/2	11	.84
8729A	3 & 3 1/4	2 1/2 & 2 3/4	2 1/2	2 3/4	2 3/4	12 1/2	1.
8030	3 1/4 & 3 1/2	2 3/4 & 3	2 3/4	3	3	12 1/2	1.
8731	3 1/2 & 3 3/4	3 & 3 1/4	3	3 1/4	3 1/4	12 1/2	1.
8731A	3 3/4 & 4	3 1/4 & 3 1/2	3 1/4	3 1/2	3 1/2	12 1/2	1.
8031B	4 & 4 1/4	3 1/2 & 3 3/4	3 1/2	3 3/4	3 3/4	12 1/2	1.
8031	4 1/4 & 4 1/2	3 3/4 & 4	3 3/4	4	4	12 1/2	1.1
8731B	4 1/2 & 4 3/4	4 & 4 1/4	4	4 1/4	4 1/4	12 1/2	1.1
8033A	4 3/4 & 5	4 1/4 & 4 1/2	4 1/4	4 1/2	4 1/2	13 1/2	1.4
8733	5 & 5 1/4	4 1/2 & 4 3/4	4 1/2	4 3/4	4 3/4	14 1/2	1.1
8033C	5 1/4 & 5 1/2	4 3/4 & 5	4 3/4	5	5	15 1/2	1.3
8034	5 1/2 & 5 3/4	5 & 5 1/4	5	5 1/4	5 1/4	15 1/2	1.3
8034A	5 3/4 & 6	5 1/4 & 5 1/2	5 1/4	5 1/2	5 1/2	17	2.3
8735	6 & 6 1/4	5 1/2 & 5 3/4	5 1/2	5 3/4	5 3/4	17	2.3
8735A	6 1/4 & 6 1/2	5 3/4 & 6	5 3/4	6	6	17	2.1
8037	6 1/2 & 6 3/4	6 & 6 1/4	6	6 1/4	6 1/4	19	3.3
8037A	6 3/4 & 7	6 1/4 & 6 1/2	6 1/4	6 1/2	6 1/2	19	3.3
8039B	7 & 7 1/4	6 1/2 & 6 3/4	6 1/2	6 3/4	6 3/4	19	3.3
8039	7 1/4 & 7 1/2	6 3/4 & 7	6 3/4	7	7	19	3.3
8039A	7 1/2 & 7 3/4	7 & 7 1/4	7	7 1/4	7 1/4	19	3.3
FOR HEAVY SERVICE — LONG PATTERN — Round Handle							
8040B	1 1/2 & 1 5/8	1 1/8 & 1 1/4	1 1/8	1 1/4	1 1/4	21	6.3
8041	1 5/8 & 2	1 1/4 & 1 1/2	1 1/4	1 1/2	1 1/2	23	5.7
8742B	1 7/8 & 2 1/8	1 3/4 & 2	1 3/4	2	2	23	5.8
8045	2 & 2 1/4	2 & 2 1/8	2	2 1/8	2 1/8	25	8.5
8049	2 1/4 & 2 3/4	2 1/8 & 2 1/2	2 1/8	2 1/2	2 1/2	27	10.2
8053	2 3/4 & 3	2 1/2 & 2 3/4	2 1/2	2 3/4	2 3/4	30	14.7
SHORT PATTERN — Different Opening in Each Head							
9723	3/8 & 1/2	1/4 & 5/16	1/4	5/16	5/16	4 1/2	.1
9725	1/2 & 5/8	5/16 & 3/8	5/16	3/8	3/8	5	.19
9725A	5/8 & 3/4	3/8 & 7/8	3/8	7/8	7/8	5 1/2	.22
9725B	3/4 & 7/8	7/8 & 1	7/8	1	1	5 1/2	.22
9025	7/8 & 1	1 & 1 1/8	1	1 1/8	1 1/8	5 1/2	.22
9727	1 & 1 1/8	1 1/8 & 1 1/4	1 1/8	1 1/4	1 1/4	6	.29

WILLIAMS'
12-POINT BOX ♦ "SUPERRENCH" SETS
Selected Alloy Steel
SET No. 9703
In Leatherette Roll
In Cardboard Box
Weight, .44 Lb.
CONTENTS

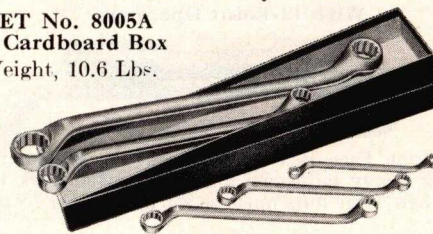


No.	Nominal Openings	Amer. Std. Heavy Nuts (U.S.S.)	Amer. Std. Hex Hd. Cap Screws	Amer. Std. Light Nuts (S.A.E.)	Amer. Std. Regl. Nuts	Length Approx.
9723	3/8 & 1/2	1/4	5/16	5/16	5/16	4 1/2
9725	5/8 & 3/4	3/8	7/8	7/8	7/8	5 1/2
9727	1 & 1 1/8	1	1 1/8	1 1/8	1 1/8	6

♦ REGISTERED TRADE MARK

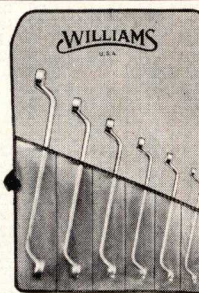
WILLIAMS'
12-POINT BOX ♦ "SUPERRENCH" SETS
Selected Alloy Steel

SET No. 8005A
In Cardboard Box
Weight, 10.6 Lbs.



CONTENTS

No.	Nominal Openings	Amer. Std. Heavy Nuts (U.S.S.)	Amer. Std. Hex Head Cap Screws	Amer. Std. Light Nuts (S.A.E.)	Length Approx.
8025	1/2 & 19/32	1/4 & 5/16	5/16	5/16	8 3/4
8029	11/16 & 25/32	3/8 & 7/16	3/8	7/16	11
8033A	7/8 & 15/16	1/2 & 9/16	5/8	9/16 & 5/8	13 1/2
8037	1 1/16 & 1 1/4	5/8 & 3/4	3/4	7/8	17
8041	1 7/16 & 1 5/8	7/8 & 1	1	1 1/8	23

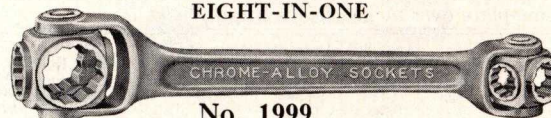


SET No. 8006
In Leatherette Roll
In Cardboard Box
Weight, 3.4 Lbs.

CONTENTS

No.	Nominal Openings	Amer. Std. Heavy Nuts (U.S.S.)	Amer. Std. Hex Head Cap Screws	Amer. Std. Light Nuts (S.A.E.)	Amer. Std. Regular Nuts	Length Approx.
8723	3/8 & 7/16	1/4 & 5/16	3/16 & 1/4	1/4	1/4	7 3/4
8025	1/2 & 19/32	3/8 & 7/16	5/16	3/8 & 7/16	5/16 & 3/8	8 3/4
8727	9/16 & 5/8	5/8 & 3/4	3/4	5/8 & 3/4	5/8 & 3/4	9 3/4
8029	11/16 & 25/32	3/4 & 7/8	3/4	7/8	7/8	11
8731A	3/4 & 7/8	7/8 & 1	7/8	1	1	12 1/2
8033C	15/16 & 1	1	1	1	1	14 1/2

WILLIAMS' ♦ "MULTISOCKET" WRENCH
EIGHT-IN-ONE



No. 1999
8 Different 12-Point Openings
Small Head; 7/16, 1/2, 9/16, 19/32"
Large Head; 5/8, 11/16, 3/4, 7/8"
Weight, 1.2 Lbs.

The openings grip hex nuts on six sides; no slipping or rounding of the nuts' corners.

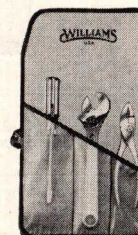
Swivel heads, with index spring to retain working opening in position for use, permit handle to be operated at practically any angle desired. Can be used as a socket wrench.

The entire wrench is drop-forged, heat-treated and finished in zinc-plate. Length, 9 inches.

WILLIAMS'
GENERAL PURPOSE UTILITY SET
SET No. APS-3
Complete in Leatherette Roll
or Cardboard Box
Total Weight, 1.3 Lbs.

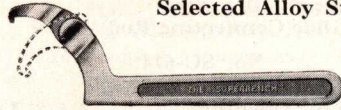
An ideal set for numerous small jobs around home and office. Also for general automobile use. Convenient size for glove compartment.

Contains one each No. 24 4" Screw Driver with plastic handle, 8 in. "Super-adjustable" Wrench and No. 6 6" Combination Slip-joint Pliers.



WILLIAMS' ADJUSTABLE HOOK SPANNERS

Selected Alloy Steel



These Spanners are drop-forged from Selected Alloy Steel, heat-treated and chrome-plated, face of jaw and raised part of handle buffed bright.

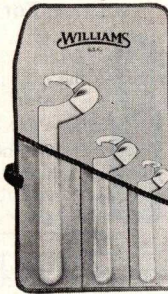
Sold individually, or in Set No. 1400.

SET No. 1400

In Leatherette Roll

In Cardboard Box

Weight, 1.8 Lbs.

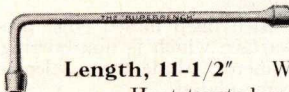


No.	Capacity for Circles, Diameter	Extreme Length, Approx.	Thickness		Depth Hook	Weight Each, Lbs.
			Handle	Hook		
1471	3/4 to 2	6 3/8	1/4	11/32	1/8	.28
1472	1 1/4 to 3	8 1/8	9/32	13/32	5/32	.54
1474	2 to 4 3/4	11 3/8	5/16	15/32	3/16	.94

♦“SUPERRENCH”

Selected Alloy Steel

For Ford V-8 60 H.P. Connecting Rods



No. S-231

Length, 11-1/2" Weight, 1.1 Lbs. Offset, 3"

Heat-treated and Chrome-plated

Spin nuts until engaged (short arm for lever); reverse wrench and tighten (long arm for lever).

6-Point Openings, 7/16 and 7/16". Special thin design sockets to handle clearance problem on all Ford V-8 60 H.P. motor, 1937-'40.

♦“SUPERRENCH”

Selected Alloy Steel

For Adjusting Ford Mechanical Brakes



No. 1984-X

7/16 and 1/2" 8-Point Openings

Length, 11-1/4" Thickness Heads, 7/16"

Weight, .53 Lb.

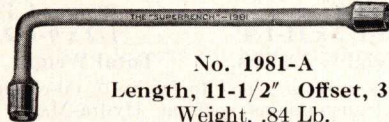
Heat-treated and Chrome-plated

The only wrench required for adjusting brakes on Ford "A", "B", all V-8, 1932-'38; also Ford "AA" and all V-8 trucks, 1932-'38.

♦“SUPERRENCH”

Selected Alloy Steel

For Ford V-8, 6 and Mercury Connecting Rods



No. 1981-A

Length, 11-1/2" Offset, 3"

Weight, .84 Lb.

Heat-treated and Chrome-plated

Spin nuts until engaged (short arm for lever); reverse wrench and tighten (long arm for lever).

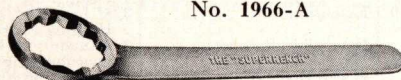
6-Point Openings, 9/16 and 9/16" Special thin design sockets to handle clearance problem on all Ford 6, all Ford V-8 (except 60 H.P.) and all Mercury connecting rod nuts. Very handy for manifold nuts and valve cap covers. Also useful for the connecting rod nuts on other automobiles.

♦“SUPERRENCH”

Selected Alloy Steel

For Ford and Mercury Crankcase Drain Plugs

No. 1966-A



2" 12-Point Opening Weight, .96 Lb. Length, 11"

Heat-treated and Chrome-plated

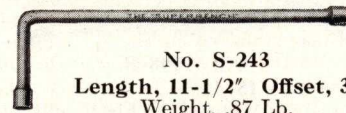
Required for drain plug service on all 1939-'48 Ford V-8 and Mercury cars.

♦ REGISTERED TRADE MARK

♦“SUPERRENCH”

Selected Alloy Steel

For Ford V-8 60 H.P. Main Bearings



No. S-243

Length, 11-1/2" Offset, 3"

Weight, .87 Lb.

21/32 and 21/32" 6-Point Openings

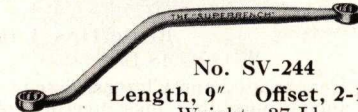
Heat-treated and Chrome-plated

Special thin design sockets to handle clearance problem on all main bearing screws, Ford V-8 60 H.P., 1937-'40. Also connecting rod nuts on all Ford models "A", "B" and "T".

♦“SUPERRENCH”

Selected Alloy Steel

For Ford 6, V-8, Mercury and Lincoln Distributors



No. SV-244

Length, 9" Offset, 2-1/4"

Weight, .37 Lb.

1/2 and 1/2" 12-Point Openings

Heat-treated and Chrome-plated

Specially offset to clear fan-belt. A big time saver in servicing distributors on Ford 6, 1941-'47; V-8, 1937-'48; Mercury, 1939-'48; Lincoln Zephyr, 1937-'42; and Lincoln, 1946-'48. Also a very useful tool on all Ford V-8 fuel pumps and carburetors.

WILLIAMS'

FORD CRANK RATCHET SOCKET

Selected Alloy Steel

For All Ford Cars and Trucks 1928-'42



No. V-132

1-3/8" 6-Point Opening

Weight, .28 Lb.

Heat-treated and Cadmium-plated

Serves lower fan-pulley nut, necessary in dropping oil pan, without removing radiator. Designed for use with regular Ford starting crank.

For all Ford cars and trucks 1928-'37, all Ford trucks 1938-'42, 1946. Cut away for clearance.

WILLIAMS'

STANDARD ♦“SUPERSOCKETS”

Selected Alloy Steel

For Ford Cars and Trucks



1/2" Square Drive

Weight, .13 Lb.

Heat-treated and Chrome-plated



*No. SF-618

9/16" 6-Point Opng.

*No. SF-1218

9/16" 12-Point Opng.

Use with Torque Wrench required on models having "Marsden" self-locking nuts.

For all Ford 6, Ford-Mercury V-8, 85 H.P., 90 H.P. and 100 H.P. Connecting Rods.

♦“SUPERRENCH”

Selected Alloy Steel

For Eccentric Adjustments



No. 1983

Openings 3/16 & 1/4", Length 9", Thickness Heads 1/4"

Weight, .15 Lb.

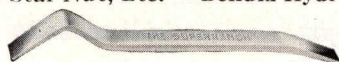
Heat-treated and Chrome-plated

For Eccentric Cam, Lockheed, Hydraulic and Bendix mechanical brakes.

*Not guaranteed because of extra thin walls.

♦♦“SUPERRENCH”

Selected Alloy Steel
For Star Nut, Etc. — Bendix Hydraulic



No. 1998-B

Blade Tips, 5/64 x 15/32"

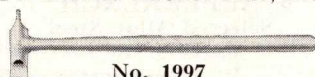
Length, 8"

Weight, .19 Lb.

Heat-treated and Chrome-plated. Specially offset to service Star Nut Eccentric, all Bendix Hydraulic.

♦♦“SUPERRENCH”

Selected Alloy Steel
For Slotted Anchor Pins, Etc.



No. 1997

Length, 6"

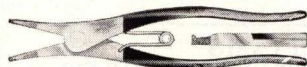
Blade Tips, 1/16 x 13/32"

Weight, .18 Lb.

Heat-treated and Chrome-plated
For slotted anchor pins, drag links, steering post and other jobs where regular screw drivers cannot be used. Also excellent as a glaziers' tool.

WILLIAMS' LOCK RING PLIERS

Selected Alloy Steel
For Snap Lock Rings



No. 1515

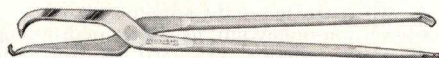
Length, 8"

Weight, .33 Lb.

Gun metal blue handles, nose polished — heat-treated.
Pliers are designed for spreading “Horse Shoe” snap lock rings on automotive brakes, transmissions, differentials, pulleys, etc.

WILLIAMS' BRAKE PLIERS

Selected Alloy Steel
For Brake-Shoe Springs



No. 1517

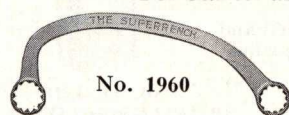
Length, 13"

Weight, .75 Lb.

Gray satin finish; head faces polished — Heat-treated.
For inserting and removing springs (internal). For use only on passenger cars and light and medium trucks excepting Ford “A”.

♦♦“SUPERRENCH”

Selected Alloy Steel
For Starter and Manifold Nuts



No. 1960

9/16 and 5/8"

12-Point Openings

Length, 7"

Weight, .21 Lb.

Heat-treated and Chrome-plated

For starter and manifold nuts, all models Chrysler and Dodge; DeSoto and Plymouth. Also very useful for starters and manifolds on many other passenger automobiles.

♦♦“SUPERRENCH”

Selected Alloy Steel

For Chevrolet Starter Nuts



No. 1961

5/8 and 3/4"

12-Point Openings

Length, 7-1/2"

Weight, .34 Lb.

Heat-treated and Chrome-plated

For starter nuts, all Chevrolet models, 1930-'48. Also very useful for starters on many other passenger automobiles.

♦ REGISTERED TRADE MARK

WILLIAMS' SPECIAL ♦♦“SUPERSOCKET”

Selected Alloy Steel
For Cadillac Connecting Rod



No. SC-614

1/2" Square Drive

7/16" 6-Point Opening

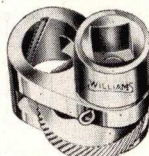
3-1/8" Long

Weight, .30 Lb.

The Cadillac Connecting Rod Nut requires an unusually strong socket for servicing. Made from selected alloy steel, heat-treated and chrome-plated. Services all model Cadillacs, 1937-'48.

WILLIAMS' STUD REMOVER

Selected Alloy Steel



No. S-60B

1/2" Square Drive

Stud Capacity

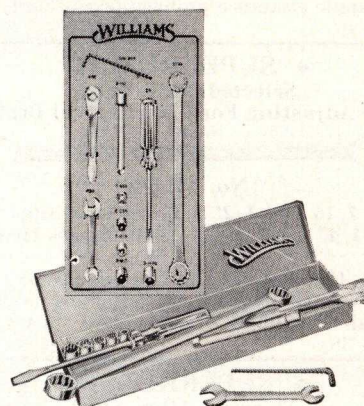
1/4" to 3/4" Diameter

Weight, .52 Lb.

This Stud Remover is designed for use with 1/2" square drive handles and attachments. It is equally efficient for removing or setting studs.

Eccentrically mounted roller with deep milled edge provides a non-slipping, gripping surface which is non-burring. Stud capacity, 1/4" to 3/4" diameter. Made from selected alloy steel, heat-treated and chrome-plated.

WILLIAMS' AUTOMATIC TRANSMISSION SETS



No. ATS-1

Steel Case,

1-3/8 x 3-1/2 x 14-1/4"

Total Weight, 3.8 Lbs.

No. ATS-2

Plywood Panel,

1/2 x 9-1/2 x 19"

Total Weight, 4.5 Lbs.

These sets were designed to facilitate oil-change work on automatic transmissions such as Hydra-Matic, Dyna-Flo, Power Glide, Ultramatic, Fluid Drive and Studebaker Automatic transmissions. Set may be purchased in metal case or plywood panel as illustrated.

Contents — either set

Quan.	No.	Description	Use
1	B-409	Socket, 9/32" Sq. Opening.	Torque Converter Drain Plug (Dynaflow)
1	B-1214	Socket, 7/16" 12 Pt. Openg.	Hydramatic Fluid Coupling Drain Plug
1	B-1216	Socket, 1/2" 12 Pt. Opening	Flywheel Cover Bolts
1	B-1218	Socket, 9/16" 12 Pt. Openg.	Flywheel Cover Bolts
1	B-1220	Socket, 5/8" 12 Pt. Opening	For Hex Head Converter Drain Plug (Studebaker)
1	B-110	Extension.....	3/8" male for (Power Glide) Housing Plug
1	B-51	Reversible Ratchet.....	3/8" male for (Power Glide) Housing Plug
1	26	6" Rd. Blade Screw Driver.	For Rotating Flywheels
1	7733	15" Offset Box Wrench—	For Dynaflow Transmission
1		7/8 & 1" Openings.....	Oil Pan Plug
1	A1725	Open End Wrench—	For Transmission Pipe Plug
1	3/16"	7/16 & 1/2" Openings	
1		Hexagon Key Wrench—	For old type Fluid Coupling
		4-1/2" long	Drain Plug (Hydramatic)

WILLIAMS' IMPACT ♦ "SUPERSOCKETS"

**FOR USE WITH ALL TYPES OF
POWER WRENCHES AND NUT RUNNERS**

Williams Impact "Supersockets" are adaptable to all socket locking methods used on the various makes of power wrenches, both of the impact and nut running types. Accurate fit assures long life, safe and dependable service.

**MADE OF EXTRA-TOUGH ALLOY STEEL
SPECIALLY HEAT-TREATED**

They withstand the constant shock and pounding involved in electric and pneumatic impact nut setting or power nut running. Performance in strength and toughness is far beyond that found in ordinary power sockets.

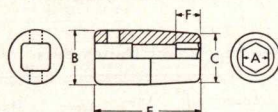
WILLIAMS' IMPACT ♦ "SUPERSOCKETS"

"O" SERIES—1/4" SQUARE DRIVE

(Male Square .250-.252 Female Square .253-.255)



Standard Length



Standard Length with Carbide Insert

Bolt Clearance Length

Nominal Opening A	No.	Amer. Std. Hex Head Tapping Screw	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. Hex Head Cap Screw Diam. Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut; Size Bolt	Maximum Dimensions			
							Dia. Drive End B	Dia. Nose C	Lgth. Over- all E	Depth Open- ing F
STANDARD LENGTH—SINGLE HEXAGON OPENINGS										
Finish—Rust Resistant										
3/16	0-606					†2 & 3	.440	.362	7/8	.197
7/32	0-607						.440	.409	7/8	.213
1/4	0-608					†4	.440	.440	7/8	.228
9/32	0-609						.503	.471	7/8	.244
5/16	0-610		1/8	1/8		†5 & 6	.503	.503	7/8	.260
11/32	0-611					†8	.503	.503	7/8	.291
3/8	0-612			3/16		†10	.565	.565	7/8	.322
7/16	0-614			1/4	1/4	1/4 & †12	.628	.628	7/8	.322
STANDARD LENGTH—DOUBLE SQUARE (8 PT.) OPENING										
FOR SQUARE NUTS										
Finish—Rust Resistant										
1/4	10-608					†4	.440	.440	2	.228
5/16	10-610		1/8	1/8		†5 & 6	.503	.503	2	.260
3/8	10-612			3/16		†10	.565	.565	2	.322
7/16	10-614					1/4	.815	.815	2	.322

**STANDARD LENGTH—SINGLE HEXAGON OPENINGS
FOR HARDENED AND SELF TAPPING SCREWS**

Nominal Opening A	No.	Amer. Std. Hex Head Tapping Screw	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. Hex Head Cap Screw Diam. Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut; Size Bolt	Maximum Dimensions			
							Dia. Drive End B	Dia. Nose C	Lgth. Over-all E	Depth Opening F
3/16	20-606	3, 4, 5					.440	.315	7/8	.075
1/4	20-608	6, 7, 8					.440	.440	7/8	.125
5/16	20-610	10 & 12					.503	.503	7/8	.135
3/8	20-612	14 & 1/4					.565	.565	7/8	.205

With Carbide Inserts for Self Tapping Screws

This line of Impact "Supersockets" has been developed for driving case-hardened, self-tapping screws with power tools of all types. They may also be used with hand drivers. Due to the hard case found on screws of the self-tapping type, even the best alloy steels, properly hardened, do not offer sufficient life. The screw drive opening in these sockets is formed of solid Carbide which is permanently inserted into a hardened steel blank. Actual life due to the Carbide surfaces which drive the screw is at least ten times that of all steel sockets.

Sockets in table below fit Hex, Hex Washer and Oval Hex Washer Heads. Finish is satin nickel. See Page 20 for sizes in "2" Series.

**STANDARD LENGTH—SINGLE HEXAGON OPENINGS
WITH CARBIDE INSERTS**

Finish—Satin Nickel Plate for positive identification

Nominal Opening A	No.	Amer. Std. Hex Head Tapping Screw	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. Hex Head Cap Screw Diam. Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut; Size Bolt	Maximum Dimensions			
							Dia. Drive End B	Dia. Nose C	Lgth. Over-all E	Depth Opening F
1/4	20-608C	6, 7, 8					.502	.502	7/8	.115
5/16	20-610C	10 & 12					.564	.564	7/8	.125
3/8	20-612C	14 & 1/4					.627	.627	7/8	.195
7/16	20-614C						.751	.751	7/8	.241

**STANDARD LENGTH—SINGLE HEXAGON OPENING
FOR ZERK TYPE LUBRICATION FITTINGS**

Finish—Copper colored for positive identification

5/16	20-610	Fits GMC No. 110347 Type C Strgt. Fittg	.503	.503	7/8	.135
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♦ REGISTERED TRADE MARK

**ALSO CAN BE USED WITH
WILLIAMS' HAND SOCKET DRIVERS**

Williams Impact "Supersockets" will fit and can be used on Williams Hand Socket Drivers where corresponding drive sizes are available. This use is recommended for applications where sockets of extra strength and toughness are indicated.

**7 SQUARE DRIVE SIZES
OVER 300 SOCKETS AND ACCESSORIES**

Impact "Supersockets" are available with hex openings from 3/16 to 2-3/4" and 8-point openings from 5/16 to 1-1/4". A wide selection is offered in standard and bolt clearance lengths for all types of power wrench work.

WILLIAMS' IMPACT ♦ "SUPERSOCKETS"

"O" SERIES—1/4" SQUARE DRIVE

(Male Square .250-.252 Female Square .253-.255)



MAGNETIC ADAPTER No. BO-0

PAT. PEND.



MAGNETIC HEXAGON—SQUARE SHANK No. BO-02

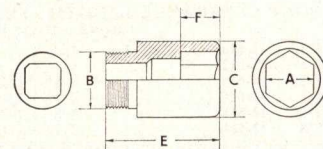
Designed for use *only* with Williams Impact "Supersockets" for Hardened and Self-Tapping Screws as listed below.

A telescopic magnetic device passes within an assembled socket and contacts the hexagon screw head, retaining same within the socket opening. The magnet, imbedded in the drive member, is spring loaded to overcome air gaps and transmits its magnetism through a hardened steel tip to the screw head.

Threaded connection is "left hand" and provides a positive fastening of the socket to the shank or adapter.

No.	Lgth.	Sq. Male	Sq. Female	No.	Lgth.	Sq. Male	Hex Male
BO-0	2	1/4	1/4	BO-02	2-1/2	1/4	1/4

"O" SERIES—STANDARD LENGTH



For Use with Williams' Magnetic Impact Accessories

Designed for use *only* with Magnetic Adapter No. BO-0 or Hexagon-Square Shank No. BO-02 to drive Hardened or Self-Tapping Screws widely used in assembly operations.

Drive end employs a male threaded portion for registration with a "left hand" Locking Nut on the drive member. The drive member contains a magnetic device to hold a hexagon screw head within the socket opening.

Nominal Opening A	No.	Amer. Std. Hex Head Tapping Screw	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. Hex Head Cap Screw Diam. Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut; Size Bolt	Maximum Dimensions			
							Dia. Drive End B	Dia. Nose C	Lgth. Over-all E	Depth Opening F
1/4	B20-608	6, 7, 8					.437	.440	7/8	.125
9/32	B20-609						.437	.471	7/8	.125
5/16	B20-610	10 & 12					.437	.503	7/8	.135
3/8	B20-612	14 & 1/4					.437	.565	7/8	.205

**STANDARD LENGTH—SINGLE HEXAGON OPENINGS
FOR HARDENED AND SELF TAPPING SCREWS**

Finish—Rust Resistant

Nominal Opening A	No.	Amer. Std. Hex Head Tapping Screw	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. Hex Head Cap Screw Diam. Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut; Size Bolt	Maximum Dimensions			
							Dia. Drive End B	Dia. Nose C	Lgth. Over-all E	Depth Opening F
1/4	B20-608	6, 7, 8					.437	.440	7/8	.125
9/32	B20-609						.437	.471	7/8	.125
5/16	B20-610	10 & 12					.437	.503	7/8	.135
3/8	B20-612	14 & 1/4					.437	.565	7/8	.205

"O" SERIES ACCESSORIES

EXTENSIONS



Male squares fitted with spring plunger

No.	Lgtn.	Sq. Male	Sq. Female
0-102	2	1/4	1/4
0-106	6	1/4	1/4

HEXAGON—SQUARE SHANKS



Male squares fitted with spring plunger

No.	Lgtn.	Sq. Male	Hex Male
0-02	2	1/4	1/4
0-04	4	1/4	1/4

† Amer. Std. Machine-Screw and Stove-Bolt Nuts.

See page 68 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.

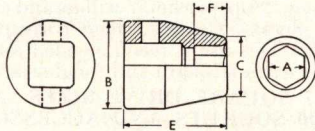
WILLIAMS' IMPACT "SUPERSOCKETS"

"2" SERIES—3/8" SQUARE DRIVE

(Male Square .376-.378 Female Square .379-.381)



Standard Length



Standard Length



Bolt Clearance Length

Nominal Opening A	No.	Amer. Std. Hex Head Tapping Screw	Amer. Std. Hex Nut (USS) Size Bolt	Amer. Std. Hex Head Cap Screw Diam. Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut Size Bolt	Maximum Dimensions			
							Dia. Drive End B	Dia. Nose C	Lgth. Over-all E	Depth Opening F

STANDARD LENGTH—SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

5/16	2-610	.....	1/8	1/8	.....	15 & 6	.753	.503	7/8	.291
11/32	2-611	.....	.....	.....	.....	18	.753	.534	7/8	.291
3/8	2-612	.....	.....	3/16	.....	110	.753	.565	7/8	.291
7/16	2-614	.....	1/4	1/4	1/4	1/4 & 112	.753	.653	7/8	.291
1/2	2-616	.....	1/4	5/16	5/16	.....	.753	.753	15/16	.322
9/16	2-618	.....	.....	3/8	3/8	.....	.878	.815	1	.385
19/32	2-619	.....	5/16	.....	.....	.....	.878	.841	1	.385
5/8	2-620	.....	.....	7/16	7/16	3/8	.878	.893	1	.416
11/16	2-622	.....	3/8	.....	.....	.....	.878	.971	1-1/8	.447
3/4	2-624	.....	.....	1/2	1/2	7/16	.878	1.065	1-1/8	.447

STANDARD LENGTH—ALTERNATE DESIGN

SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

3/8	A2-612	.....	3/16	.....	.....	110	.690	.555	7/8	.291
7/16	A2-614	.....	1/4	1/4	1/4	1/4 & 112	.690	.636	7/8	.291
1/2	A2-616	.....	1/4	5/16	5/16	.....	.716	.716	7/8	.291
9/16	A2-618	.....	3/8	3/8	5/16	.....	.794	.794	7/8	.291

STANDARD LENGTH—DOUBLE SQUARE (8 PT.)

OPENINGS FOR SQUARE NUTS

Finish—Rust Resistant

5/16	2-810	.....	1/8	.....	.....	15 & 6	.690	.565	7/8	.291
3/8	2-812	.....	.....	.....	.....	110	.690	.650	7/8	.291
7/16	2-814	.....	1/4	1/4	1/4	1/4 & 112	.753	.753	7/8	.291
1/2	2-816	.....	1/4	5/16	5/16	.....	.878	.878	7/8	.291
9/16	2-818	.....	.....	3/8	3/8	5/16	1.003	1.003	1	.385
5/8	2-820	.....	.....	7/16	7/16	3/8	1.128	1.128	1-1/8	.416

BOLT CLEARANCE LENGTH—SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

5/16	12-610	.....	1/8	1/8	.....	15 & 6	.690	.477	1-1/2	.291
3/8	12-612	.....	3/16	.....	.....	110	.690	.555	1-1/2	.291
7/16	12-614	.....	1/4	1/4	1/4	1/4 & 112	.690	.636	1-1/2	.291
1/2	12-616	.....	1/4	5/16	5/16	.....	.716	.716	1-1/2	.322
9/16	12-618	.....	3/8	3/8	5/16	.....	.794	.794	1-1/2	.385
5/8	12-620	.....	.....	7/16	7/16	3/8	.878	.878	1-1/2	.416

STANDARD LENGTH—SINGLE HEXAGON OPENINGS

FOR HARDENED AND SELF TAPPING SCREWS

Finish—Copper colored for positive identification

5/16	22-610	10 & 12	.....	.....	.....	.....	.753	.503	7/8	.135
3/8	22-612	14 & 1/4	.....	.....	.....	.....	.753	.567	7/8	.205
7/16	22-614	.....	.....	.....	.....	.....	.753	.659	15/16	.245
1/2	22-616	5/16	.....	.....	.....	.....	.753	.753	15/16	.245
9/16	22-618	3/8	.....	.....	.....	.....	.878	.815	1	.310

STANDARD LENGTH—SINGLE HEXAGON OPENINGS

WITH CARBIDE INSERTS

FOR SELF TAPPING SCREWS—See Page 19 for description

Finish—Satin Nickel Plate for positive identification

5/16	22-610C	10 & 12	.....	.....	.....	.....	.752	.562	7/8	.125
3/8	22-612C	14 & 1/4	.....	.....	.....	.....	.752	.632	7/8	.195
7/16	22-614C	.....	.....	.....	.....	.....	.877	.763	15/16	.244
1/2	22-616C	5/16	.....	.....	.....	.....	.877	.842	15/16	.239

STANDARD LENGTH—SINGLE HEXAGON OPENINGS

FOR ZERK TYPE LUBRICATION FITTINGS

Finish—Copper colored for positive identification

5/16	22-610	GMC No. 110347, Type C Strgt. Fitting	.753	.503	7/8	.135
7/16	22-614	GMC No. 119512, Type C Strgt. Fitting	.753	.659	15/16	.245
		GMC No. 145433, Type C Special Taper Drive, Straight	.753	.659	15/16	.245

† Amer. Std. Machine-Screw and Stove-Bolt Nuts.

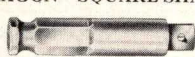
"2" SERIES ACCESSORIES

EXTENSIONS

HEXAGON—SQUARE SHANKS



Male squares fitted with spring plunger



Male squares fitted with spring plunger

No.	Lgth.	Square Male	Square Female
2-103	3	3/8	3/8
2-106	6	3/8	3/8

No.	Lgth.	Square Male	Hex Male
2-33	2-3/4	3/8	7/16
2-35	5	3/8	7/16

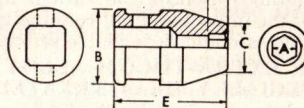
WILLIAMS' IMPACT "SUPERSOCKETS"

"4" SERIES—1/2" SQUARE DRIVE

(Male Square .501-.503 Female Square .504-.506)



Standard Length Impact Design



Bolt Clearance Length



Standard Length Alternate Design



See Page 23 for Handy Sets

Nominal Opening A	No.	Amer. Std. Hex Head Tapping Screw	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. Hex Head Cap Screw Diam. Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut Size Bolt	Maximum Dimensions			
							Dia. Drive End B	Dia. Nose C	Lgth. Over-all E	Depth Opening F

STANDARD LENGTH—IMPACT DESIGN

SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

3/8	4-612	.....	.....	3/16	.....	110	1.003	.628	1-1/2	.291
7/16	4-614	.....	.....	1/4	1/4	1/4 & 112	1.003	.706	1-1/2	.338
1/2	4-616	.....	1/4	5/16	5/16	.....	1.065	.784	1-1/2	.385
9/16	4-618	.....	.....	3/8	3/8	5/16	1.065	.879	1-1/2	.447
19/32	4-619	.....	5/16	.....	.....	.....	1.065	.909	1-1/2	.447
5/8	4-620	.....	.....	7/16	7/16	3/8	1.128	.956	1-1/2	.478
11/16	4-622	.....	3/8	.....	.....	.....	1.128	1.034	1-1/2	.525
3/4	4-624	.....	.....	1/2	1/2	7/16	1.128	1.128	1-1/2	.572
25/32	4-625	.....	7/16	.....	.....	.....	1.128	1.143	1-1/2	.603
13/16	4-626	.....	.....	9/16	.....	1/2	1.128	1.190	1-1/2	.619
7/8	4-628	.....	1/2	5/8	9/16	.....	1.128	1.315	1-5/8	.666
15/16	4-630	.....	.....	5/8	.....	.....	1.315	1.378	1-3/4	.713
1	4-632	.....	.....	3/4	5/8	.....	1.315	1.440	1-3/4	.760
1	1/16	4-634	.....	5/8	3/4	.....	1.315	1.518	2	.806
1	1/8	4-636	.....	7/8	.....	.....	1.315	1.612	2	.853
1	3/16	4-638	.....	.....	.....	.....	1.315	1.690	2	.885
1	1/4	4-640	.....	3/4	7/8	.....	1.315	1.768	2	.947

STANDARD LENGTH—ALTERNATE DESIGN

SINGLE HEXAGON OPENINGS

These Sockets have straight walls with no band groove recess

Finish—Rust Resistant

3/8	A4-612	.....	.....	3/16	.....	110	.878	.608	1-1/2	.291
7/16	A4-614	.....	.....	1/4	1/4	1/4 & 112	.878	.691	1-1/2	.338
1/2	A4-616	.....	1/4	5/16	5/16	.....	.940	.776	1-1/2	.385
9/16	A4-618	.....	.....	3/8	3/8	5/16	.940	.857	1-1/2	.447
19/32	A4-619	.....	5/16	.....	.....	.....	.899	.899	1-1/2	.447
5/8	A4-620	.....	.....	7/16	7/16	3/8	.944	.944	1-1/2	.478
11/16	A4-622	.....	3/8	.....	.....	.....	1.025	1.025	1-1/2	.525
3/4	A4-624	.....	.....	1/2	1/2	7/16	1.108	1.108	1-1/2	.572
13/16	A4-626	.....	.....	9/16	.....	1/2	1.190	1.190	1-1/2	.619
7/8	A4-628	.....	1/2	5/8	9/16	.....	1.271	1.271	1-1/2	.666
15/16	A4-630	.....	.....	5/8	.....	.....	1.357	1.357	1-3/4	.713
1	A4-632	.....	.....	3/4	5/8	.....	1.440	1.440	1-3/4	.760
1	1/16	A4-634	.....	5/8	3/4	.....	1.525	1.525	2	.806

STANDARD LENGTH—DOUBLE SQUARE (8 PT.)

OPENINGS FOR SQUARE NUTS

Finish—Rust Resistant

3/8	4-812	.....	.....	.....	.....	110	.878	.715	1-1/2	.291
7/16	4-814	.....	.....	1/4	1/4	1/4 & 112	.940	.817	1-1/2	.338
1/2	4-816	.....	1/4	5/16	5/16	.....	1.003	.916	1-1/2	.385
9/16	4-818	.....	.....	3/8	3/8	5/16	1.128	1.014	1-1/2	.447
5/8	4-820	.....	.....	7/16	7/16	3/8	1.128	1.108	1-1/2	.478
3/4	4-824	.....	.....	1/2	1/2	7/16	1.315	1.315	1-1/2	.572
13/16	4-826	.....	.....	9/16	.....	1/2	1.407	1.407	1-1/2	.619
7/8	4-828	.....	1/2	5/8	9/16	.....	1.516	1.516	1-1/2	.666
15/16	4-830	.....	.....	5/8	.....	.....	1.612	1.612	1-3/4	.713
1	4-832	.....	.....	.....	5/8	.....	1.719	1.719	1-3/4	.760

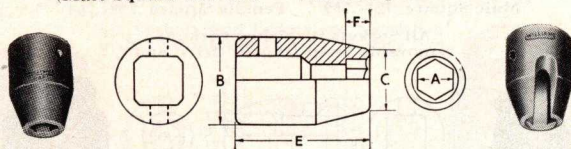
BOLT CLEARANCE LENGTH—SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

3/8	14-612			3/16		†10	.878	.608	3-1/4	.291
7/16	14-614			1/4	1/4	1/4 & †12	.878	.691	3-1/4	.338
1/2	14-616	1/4		5/16	5/16		.940	.776	3-1/4	.385
9/16	14-618			3/8	3/8	5/16	.940	.857	3-1/4	.447
5/8	14-620			7/16	7/16	3/8	.940	.940	3-1/4	.478
11/16	14-622	3/8					1.025	1.025	3-1/4	.525
3/4	14-624			1/2	1/2	7/16	1.108	1.108	3-1/4	.572
13/16	14-626			9/16		1/2	1.190	1.190	3-1/4	.619
7/8	14-628	1/2		5/8	9/16	9/16	1.276	1.276	3-1/2	.666
15/16	14-630				5/8		1.357	1.357	3-1/2	.713
1	14-632			3/4		5/8	1.440	1.440	3-1/2	.760

WILLIAMS' IMPACT "4" SERIES—1/2" SQUARE DRIVE

(Male Square .501-.503 Female Square .504-.506)



For Hardened and Self Tapping Screws

For Zerk Type Lub. Fittings

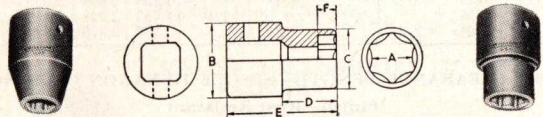
Nominal Opening A	No.	Amer. Std. Hex Head Tapping Screw	For Hex Nuts and Cap Screws				Maximum Dimensions			
			Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. Hex Head Cap Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut Size Bolt	Dia. Drive End	Dia. Nose	Lgth. Overall	Depth Opening
3/8	24-612	14 & 1/4					.878	.628	1-1/2	.205
7/16	24-614						.878	.691	1-1/2	.250
1/2	24-616	5/16					.940	.753	1-1/2	.245
9/16	24-618	3/8					1.003	.878	1-1/2	.310

STANDARD LENGTH—SINGLE HEXAGON OPENINGS FOR HARDENED AND SELF TAPPING SCREWS
Finish—Copper colored for positive identification

3/8	24-612	14 & 1/4					.878	.628	1-1/2	.205
7/16	24-614						.878	.691	1-1/2	.250
1/2	24-616	5/16					.940	.753	1-1/2	.245
9/16	24-618	3/8					1.003	.878	1-1/2	.310

STANDARD LENGTH—SINGLE HEXAGON OPENINGS FOR ZERK TYPE LUBRICATION FITTINGS
Finish—Copper colored for positive identification

Nominal Opening A	No.	Fits	GMC Type C Fitting	Maximum Dimensions			
				Dia. Drive End	Dia. Nose	Lgth. Overall	Depth Opening
3/8	24-612B	No. 110309 Elbow 45°		.878	.628	1-1/2	.416
		No. 191350 Elbow 85-90°					
		No. 109350 Elbow 67-1/2°					
		No. 109353 Elbow 30°					
7/16	24-614B	No. 109354 Elbow 85-90°		.878	.691	1-1/2	.478
		No. 145435 Spec. Taper Dr. 67-1/2°					
		No. 145436 Spec. Taper Dr. 85-90°					
7/16	24-614	No. 119512 Straight Fitting		.878	.691	1-1/2	.250
		No. 145433 Spec. Taper Dr. Straight					



Surface Drive

THIN NOSE

Thin Nose Surface Dr.

Nominal Opening A	No.	Amer. Std. Heavy Nut (USS) Size Bolt	For Hex Nuts and Cap Screws				Maximum Dimensions			
			Amer. Std. Hex Head Cap Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut Size Bolt	Amer. Std. Heavy Nut (USS) Size Bolt	Dia. Drive End	Dia. Nose	Lgth. Overall	Depth Opening
3/8	24-612	14 & 1/4					.878	.628	1-1/2	.205
7/16	24-614	5/16					.878	.691	1-1/2	.250
1/2	24-616	3/8					.940	.753	1-1/2	.245
9/16	24-618	1/2					1.003	.878	1-1/2	.310

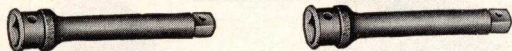
STD. LENGTH—SURFACE DR. SINGLE HEXAGON OPENINGS
Finish—Rust Resistant

7/16	A4-614A	1/4	1/4	1/4 & 1/2	.878	.691	1-1/2	.338
1/2	A4-616A	5/16	5/16		.940	.776	1-1/2	.385
9/16	A4-618A	3/8	3/8	5/16	.940	.857	1-1/2	.447
5/8	A4-620A	7/16	7/16	3/8	.944	.944	1-1/2	.478
11/16	A4-622A	3/8			1.025	1.025	1-1/2	.525
3/4	A4-624A	1/2	1/2	7/16	1.108	1.108	1-1/2	.572
13/16	A4-626A	9/16		1/2	1.190	1.190	1-1/2	.619
7/8	A4-628A	1/2	5/8	9/16	1.271	1.271	1-1/2	.666

STD. LGTH.—THIN NOSE SURFACE DR. SINGLE HEX. OPENING
Finish—Rust Resistant

7/16	34-614A	1/4	1/4	1/4 & 1/2	.878	.671	13/16	1-1/2	.338
1/2	34-616A	5/16	5/16		.940	.753	49/64	1-1/2	.385
9/16	34-618A	3/8	3/8	5/16	.940	.831	47/64	1-1/2	.447

"4" SERIES ACCESSORIES
EXTENSIONS



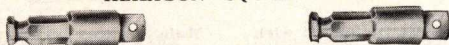
Male squares have thru pin hole

No.	Lgth.	Sq. Male	Sq. Fem.
4-105	5	1/2	1/2
4-110	10	1/2	1/2

Male squares have imprisoned spring and plunger

No.	Lgth.	Sq. Male	Sq. Fem.
4-105A	5	1/2	1/2
4-110A	10	1/2	1/2

HEXAGON—SQUARE SHANKS



Male squares have thru pin hole

No.	Lgth.	Sq. Male	Hex. Male
4-33	2-3/4	1/2	7/16
4-33	2-3/4	1/2	7/16
4-35	5	1/2	7/16
4-53	3	1/2	5/8
4-55	5	1/2	5/8

Male squares have imprisoned spring and plunger

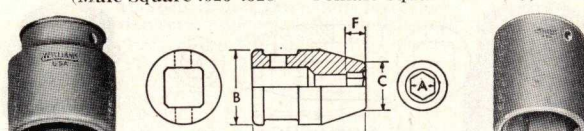
No.	Lgth.	Sq. Male	Hex. Male
4-33A	2-3/4	1/2	7/16
4-35A	5	1/2	7/16
4-53A	3	1/2	5/8
4-55A	5	1/2	5/8

For Retainer Pins and Neoprene Bands to fit above Extensions see Page 23.

♦ REGISTERED TRADE MARK

WILLIAMS' IMPACT "5" SERIES—5/8" SQUARE DRIVE

(Male Square .626-.628 Female Square .628-.631)



Standard Length Impact Design

Bolt Clearance Length

Standard Length Alternate Design

Nominal Opening A	No.	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. Hx. Hd. Cap Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut Size Bolt	Maximum Dimensions			
						Dia. Drive End	Dia. Nose	Lgth. Overall	Depth Opening
3/8	24-612	14 & 1/4				.878	.628	1-1/2	.205
7/16	24-614	5/16				.878	.691	1-1/2	.250
1/2	24-616	3/8				.940	.753	1-1/2	.245
9/16	24-618	1/2				1.003	.878	1-1/2	.310

STANDARD LENGTH—IMPACT DESIGN SINGLE HEXAGON OPENINGS
Finish—Rust Resistant

1/2	5-616	1/4	5/16	5/16	5/16	1.315	.880	1-1/2	.447
9/16	5-618		3/8	3/8	3/8	1.315	.940	1-1/2	.478
5/8	5-620		7/16	7/16	7/16	1.315	1.019	1-1/2	.510
11/16	5-622	3/8		1/2	1/2	1.315	1.101	1-1/2	.572
3/4	5-624		1/2	1/2	1/2	1.315	1.183	1-1/2	.603
25/32	5-626	7/16				1.315	1.265	1-1/2	.635
13/16	5-628		9/16	9/16	9/16	1.315	1.378	1-1/2	.666
7/8	5-630	1/2	5/8	5/8	5/8	1.315	1.440	1-1/2	.697
1	5-632		3/4	3/4	3/4	1.503	1.503	2-3/8	.766
1 1/16	5-634	5/8		3/4	3/4	1.503	1.628	2	.822
1 1/8	5-636		7/8	7/8	7/8	1.503	1.690	2	.885
1 1/4	5-640	3/4		7/8	7/8	1.503	1.815	2	1.072
1 5/16	5-642		1	1	1	1.503	1.940	2-1/8	1.072
1 3/8	5-644					1.503	2.003	2-1/8	1.072
1 7/16	5-646	7/8		1	1	1.503	2.065	2-1/4	1.181
1 1/2	5-648		1-1/8	1-1/8	1-1/8	1.503	2.159	2-3/8	1.306

STANDARD LENGTH—ALTERNATE DESIGN SINGLE HEXAGON OPENINGS
These Sockets have straight walls with no band groove recess
Finish—Rust Resistant

9/16	A5-618	3/8	3/8	5/16	1.190	.851	1-1/2	.447
19/32	A5-619	5/16			1.190	.899	1-1/2	.478
5/8	A5-620		7/16	7/16	1.190	.940	1-1/2	.510
11/16	A5-622	3/8		1/2	1.190	1.018	1-1/2	.572
3/4	A5-624		1/2	1/2	1.190	1.018	1-1/2	.603
13/16	A5-626		9/16	9/16	1.190	1.190	1-1/2	.635
7/8	A5-628	1/2	5/8	5/8	1.271	1.271	1-1/2	.666
15/16	A5-630		5/8		1.357	1.357	1-3/4	.697
1	A5-632	3/4			1.440	1.440	1-3/4	.760
1 1/16	A5-634	5/8		3/4	1.525	1.525	2	.822
1 1/8	A5-636		7/8		1.608	1.608	2	.885
1 1/4	A5-640	3/4		7/8	1.777	1.777	2	.855

STANDARD LENGTH—DOUBLE SQUARE (8 PT.) OPENINGS FOR SQUARE NUTS

Finish—Rust Resistant

9/16	5-818	3/8	3/8	5/16	1.190	1.014	1-1/2	.447
5/8	5-820		7/16	7/16	1.190	1.128	1-1/2	.478
11/16	5-822	3/8			1.253	1.253	1-1/2	.525
3/4	5-824		1/2	1/2	1.315	1.315	1-1/2	.572
13/16	5-826		9/16	9/16	1.407	1.407	1-1/2	.635
7/8	5-828	1/2	5/8	5/8	1.516	1.516	1-1/2	.666
15/16	5-830		5/8		1.614	1.614	1-3/4	.697
1	5-832			5/8	1.719	1.719	1-3/4	.760
1 1/16	5-834	5/8		3/4	1.836	1.836	2	.822
1 1/8	5-836		3/4		1.933	1.933	2	.822

BOLT CLEARANCE LENGTH—SINGLE HEXAGON OPENINGS
Finish—Rust Resistant

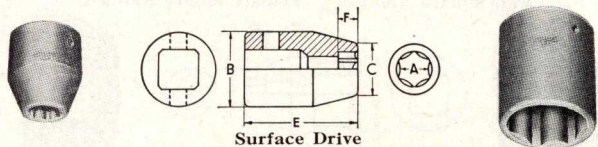
9/16	15-618	3/8	3/8	5/16	1.190	.851	3-1/4	.447
5/8	15-620		7/16	7/16	1.190	.940	3-1/4	.478
11/16	15-622	3/8			1.190	1.018	3-1/4	.510
3/4	15-624		1/2	1/2	1.190	1.018	3-1/4	.572
13/16	15-626		9/16	9/16	1.190	1.190	3-1/4	.635
7/8	15-628	1/2	5/8	5/8	1.276	1.276	3-1/2	.666
15/16	15-630		5/8		1.357	1.357	3-1/2	.697
1	16-632	3/4		5/8	1.440	1.440	3-1/2	.760
1 1/16	15-634	5/8		3/4	1.525	1.525	3-1/2	.822

For Retainer Pins and Neoprene Bands to fit Nos. 5-616 thru 5-648 see Page 23.

WILLIAMS' IMPACT ♦ "SUPERSOCKETS"

"5" SERIES—5/8" SQUARE DRIVE

(Male Square .626-.628 Female Square .628-.631)



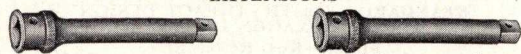
Nominal Opening A	No.	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. Hx. Hd. Cap Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut; Size Bolt	Maximum Dimensions			
						Diam. Drive End B	Diam. Nose C	Lgth. Over-all E	Depth Opening F

**STANDARD LENGTH—SURFACE DRIVE
SINGLE HEXAGON OPENINGS**

Finish—Rust Resistant

5/8	A5-620A	7/16	7/16	3/8	1.190	.940	1-1/2	.478
11/16	A5-622A	3/8	1/2	7/16	1.190	1.018	1-1/2	.510
3/4	A5-624A	1/2	9/16	1/2	1.190	1.108	1-1/2	.572
13/16	A5-626A	5/8	5/8	9/16	1.190	1.190	1-1/2	.635
7/8	A5-628A	3/4	3/4	1 1/8	1.271	1.271	1-1/2	.666
15/16	A5-630A	7/8	7/8	1 1/4	1.357	1.357	2	.697
1	A5-632A	1 1/8	1 1/8	1 1/2	1.440	1.440	2	.760
1 1/16	A5-634A	1 1/4	1 1/4	1 3/4	1.525	1.525	2	.822

**"5" SERIES ACCESSORIES
EXTENSIONS**



Male squares have thru pin hole

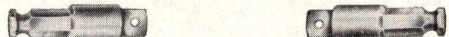
No.	Lgth.	Square Male	Square Female
5-106	6	5/8	5/8
5-110	10	5/8	5/8

Male squares have imprisoned spring and plunger

No.	Lgth.	Square Male	Square Female
5-106A	6	5/8	5/8
5-110A	10	5/8	5/8

For Retainer Pins and Neoprene Bands to fit above Extensions see Page 23.

HEXAGON—SQUARE SHANKS



Male squares have thru pin hole

No.	Lgth.	Square Male	Hex Male
5-53	3	5/8	5/8
5-55	5	5/8	5/8
5-63	3	5/8	3/4

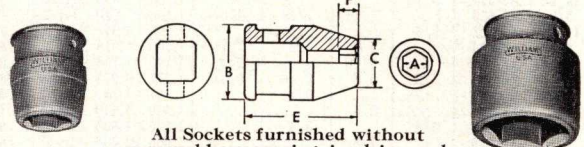
Male squares have imprisoned spring and plunger

No.	Lgth.	Square Male	Hex Male
5-53A	3	5/8	5/8
5-55A	5	5/8	5/8
5-63A	3	5/8	3/4

WILLIAMS' IMPACT ♦ "SUPERSOCKETS"

"6" SERIES—3/4" SQUARE DRIVE

(Male Square .757-.759 Female Square .759-.764)



All Sockets furnished without removable snap-ring in drive end

Nominal Opening A	No.	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. Hx. Hd. Cap Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut; Size Bolt	Maximum Dimensions			
						Diam. Drive End B	Diam. Nose C	Lgth. Over-all E	Depth Opening F

STANDARD LENGTH—SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

1/2	6-616	1/4	5/16	5/16	1.503	.940	1-3/4	.572
9/16	6-618	3/8	3/8	3/8	1.503	1.003	1-3/4	.572
19/32	6-619	5/16	7/16	7/16	1.503	1.065	1-3/4	.572
5/8	6-620	7/16	7/16	3/8	1.503	1.096	1-3/4	.572
11/16	6-622	3/8	1/2	1/2	1.503	1.159	1-3/4	.572
3/4	6-624	1/2	9/16	9/16	1.503	1.253	1-3/4	.572
25/32	6-625	7/16	5/8	5/8	1.503	1.284	1-3/4	.572
13/16	6-626	5/8	3/4	3/4	1.503	1.378	1-7/8	.635
7/8	6-628	3/4	7/8	7/8	1.503	1.503	1-7/8	.635
15/16	6-630	7/8	1 1/8	1 1/8	1.503	1.565	1-7/8	.635
1	6-632	1 1/8	1 1/4	1 1/4	1.503	1.628	2	.760
1 1/16	6-634	1 1/4	1 1/2	1 1/2	1.503	1.690	2	.760
1 1/8	6-636	1 1/2	1 3/4	1 3/4	1.503	1.753	2-1/8	.885
1 3/16	6-638	1 3/4	2	2	1.503	1.878	2-1/8	.885
1 1/4	6-640	2	2 1/8	2 1/8	1.753	2.003	2-1/8	.885
1 5/16	6-642	2 1/8	2 1/4	2 1/4	1.753	2.065	2-1/4	1.010
1 3/8	6-644	2 1/4	2 3/8	2 3/8	1.753	2.128	2-1/4	1.010
1 7/16	6-646	2 3/8	2 3/4	2 3/4	1.753	2.253	2-3/8	1.135
1 1/2	6-648	2 3/4	2 7/8	2 7/8	1.753	2.315	2-3/8	1.135
1 5/8	6-652	2 7/8	3	3	1.753	2.440	2-3/8	1.135
1 11/16	6-654	3	3 1/8	3 1/8	1.753	2.503	2-3/8	1.135

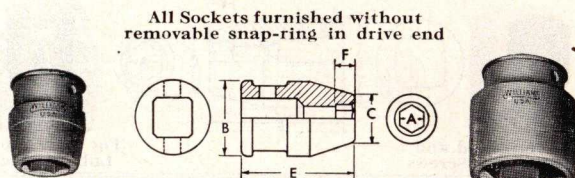
* Can be used for servicing Standard Budd Wheels.
For Retainer Pins & Neoprene Bands to fit above Sockets, see Pg. 23.

♦ REGISTERED TRADE MARK

WILLIAMS' IMPACT ♦ "SUPERSOCKETS"

"6" SERIES—3/4" SQUARE DRIVE

(Male Square .757-.759 Female Square .759-.764)



All Sockets furnished without removable snap-ring in drive end

Standard Length



Standard Length

Bolt Clearance Length

Nominal Opening A	No.	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. Hx. Hd. Cap Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut; Size Bolt	Maximum Dimensions			
						Diam. Drive End B	Diam. Nose C	Lgth. Over-all E	Depth Opening F

**STANDARD LENGTH—DOUBLE SQUARE (8 PT.)
OPENINGS FOR SQUARE NUTS**

Finish—Rust Resistant

9/16	6-418	3/8	5/16	1.503	1.159	1-5/8	.447
5/8	6-420	7/16	3/8	1.503	1.253	1-5/8	.478
3/4	6-424	1/2	7/16	1.503	1.503	1-3/4	.572
13/16	6-426	5/8	9/16	1.503	1.628	1-7/8	.635
7/8	6-428	3/4	1 1/8	1.503	1.628	1-7/8	.635
15/16	6-430	7/8	1 1/4	1.503	1.753	1-7/8	.635
1	6-432	1 1/8	1 1/2	1.503	1.815	1-7/8	.635
1 1/16	6-434	1 1/4	1 3/4	1.503	1.940	2	.760
1 1/8	6-436	1 1/2	2	1.753	2.003	2	.760
1 1/4	6-440	1 3/4	2 1/4	1.753	2.128	2-1/8	.885
1 1/2	6-444	2	2 3/4	1.753	2.378	2-1/8	.885

BOLT CLEARANCE LENGTH—SINGLE HEXAGON OPENINGS

Finish—Rust Resistant

9/16	16-618	3/8	5/16	1.503	1.603	3-1/4	.447
5/8	16-620	7/16	3/8	1.503	1.096	3-1/4	.478
11/16	16-622	3/8	7/16	1.503	1.159	3-1/4	.478
3/4	16-624	1/2	7/16	1.503	1.253	3-1/4	.572
13/16	16-626	5/8	9/16	1.503	1.378	3-1/4	.635
7/8	16-628	3/4	1 1/8	1.503	1.503	3-1/2	.635
15/16	16-630	7/8	1 1/4	1.503	1.565	3-1/2	.635
1	16-632	1 1/8	1 1/2	1.503	1.628	3-1/2	.760
1 1/16	16-634	1 1/4	1 3/4	1.503	1.690	3-1/2	.760
1 1/8	16-636	1 1/2	2	1.503	1.753	3-1/2	.885
1 3/16	16-638	1 3/4	2 1/4	1.503	1.878	3-1/2	.885
1 1/4	16-640	2	2 3/4	1.753	2.003	3-1/2	.885
1 5/16	16-642	2 1/8	2 3/4	1.753	2.065	3-1/2	.885
1 3/8	16-644	2 1/4	2 3/4	1.753	2.128	3-1/2	.885
1 7/16	16-646	2 3/8	2 3/4	1.753	2.253	3-1/2	.947
1 1/2	16-648	2 3/4	2 7/8	1.753	2.315	3-1/2	.947
1 5/8	16-652	2 7/8	3	1.753	2.447	3-1/2	1.010

* Can be used for servicing Standard Budd Wheels.
† These Sockets have single square openings.

"6" SERIES ACCESSORIES

ADAPTERS



No.	Lgth.	Square Female	Square Male
6-7	2-5/8	3/4	1

EXTENSIONS



Male Squares furnished with through pin hole

No.	Lgth.	Square Male	Square Female
6-107	7	3/4	3/4
6-110	10	3/4	3/4
6-113	13	3/4	3/4

HEXAGON—SQUARE SHANKS



Male Squares furnished with through pin hole

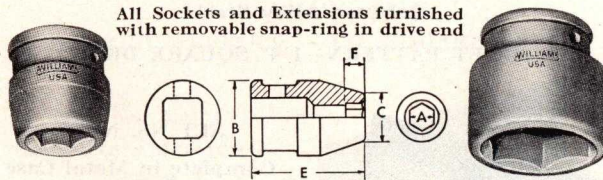
No.	Lgth.	Square Male	Hex Male
6-63	3	3/4	3/4

For Retainer Pins and Neoprene Bands to fit above Sockets, Extensions and Adapters see Page 23.

DROP - FORGINGS AND **WILLIAMS** DROP - FORGED TOOLS

WILLIAMS' IMPACT ♦ "SUPERSOCKETS" "7" SERIES—1" SQUARE DRIVE (Male Square 1.007-1.009 Female Square 1.009-1.014)

All Sockets and Extensions furnished
with removable snap-ring in drive end



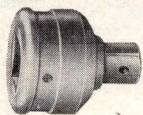
Nominal Opening A	No.	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. Hx. Hd. Cap Screw Diam. Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut; Size Bolt	Maximum Dimensions			
						Diam. Drive End B	Diam. Nose C	Lgth. Over-all E	Depth Opening F

STANDARD LENGTH—SINGLE HEXAGON OPENINGS Finish—Rust Resistant

3/4	7-624	1/2	1/2	7/16	2.003	1.440	2-1/16	.572
13/16	7-626	9/16	5/8	1/2	2.003	1.503	2-1/16	.635
7/8	7-628	1 1/2	5/8	9/16	2.003	1.534	2-1/16	.666
15/16	7-630	9/16	5/8	1/2	2.003	1.566	2-1/16	.697
1	7-632	3/4	5/8	5/8	2.003	1.753	2-1/16	.697
1 1/16	7-634	5/8	3/4	3/4	2.003	1.753	2-1/16	.697
1 1/8	7-636	7/8	3/4	3/4	2.003	1.815	2-3/16	.822
1 1/4	7-640	3/4	7/8	7/8	2.128	2.003	2-3/16	.822
1 5/16	7-642	1	7/8	7/8	2.128	2.065	2-3/16	.822
1 3/8	7-644	7/8	1	1	2.128	2.128	2-5/16	.947
1 7/16	7-646	7/8	1	1	2.253	2.253	2-5/16	.947
1 1/2	7-648	1-1/8	1-1/8	1	2.253	2.315	2-5/16	.947
1 5/8	7-652	1	1-1/8	1-1/8	2.253	2.440	2-7/16	1.010
1 11/16	7-654	1-1/4	1-1/4	1-1/8	2.253	2.565	2-7/16	1.010
1 13/16	7-658	1-1/8	1-1/4	1-1/4	2.253	2.753	2-9/16	1.135
1 7/8	7-660	1-1/4	1-3/8	1-1/4	2.253	2.753	2-9/16	1.135
2	7-664	1-1/4	1-3/8	1-3/8	2.253	3.003	2-11/16	1.260
2 1/16	7-666	1-1/4	1-3/8	1-3/8	2.253	3.003	2-11/16	1.260
2 3/16	7-670	1-3/8	1-1/2	1-1/2	2.253	3.253	2-13/16	1.385
2 1/4	7-672	1-3/8	1-1/2	1-1/2	2.253	3.253	2-13/16	1.380

BOLT CLEARANCE LENGTHS—SINGLE HEXAGON OPENINGS Finish—Rust Resistant									
1 3/16	17-638	2.128	1.878	3-1/2	.885				

"7" SERIES ACCESSORIES ADAPTERS



EXTENSIONS



Male squares are furnished
with through pin hole

No.	Lgth.	Square Male	Square Female
7-106	6	1	1
7-112	12	1	1

For Retainer Pins and Neoprene Bands to fit above Sockets, Extensions and Adapters see listing on this page.

HEXAGON—SQUARE SHANKS



Male squares are furnished
with through pin hole

No.	Lgth.	Square Male	Hex Male
7-64	3-9/16	1	3/4

WILLIAMS' IMPACT ♦ "SUPERSOCKET" SETS "4" SERIES—1/2" SQUARE DRIVE

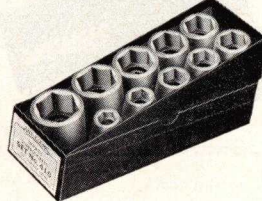


SET No. A-46
Complete in Cardboard Box
6 Pieces
Weight, 1-1/4 lbs.

CONTENTS
6 Standard Length—Alternate Design Impact "Supersockets" with Hexagon Openings—1/2, 9/16, 5/8, 11/16, 3/4 and 7/8.

For Part Numbers and Dimensions See A-4 and 4 Series Standard Length Sockets as Listed on Page 20.

♦ REGISTERED TRADE MARK

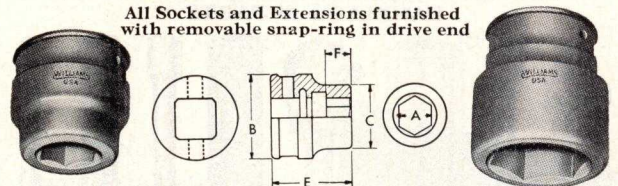


SET No. 410
Complete in Cardboard Box
10 Pieces
Weight, 1-3/4 lbs.

CONTENTS
10 Standard Length Impact "Supersockets" with Hexagon Openings—7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16 and 1".

WILLIAMS' IMPACT ♦ "SUPERSOCKETS" "8" SERIES—1-1/2" SQUARE DRIVE (Male Square 1.503-1.505 Female Square 1.505-1.510)

All Sockets and Extensions furnished
with removable snap-ring in drive end



Nominal Opening A	No.	Amer. Std. Heavy Nut (USS) Size Bolt	Amer. Std. Hx. Hd. Cap Screw Diam. Screw	Amer. Std. Light Nut (SAE) Size Bolt	Amer. Std. Regular Nut; Size Bolt	Maximum Dimensions			
						Diam. Drive End B	Diam. Nose C	Lgth. Over-all E	Depth Opening F

STANDARD LENGTH—SINGLE HEXAGON OPENINGS Finish—Rust Resistant

1 5/16	8-642	1	7/8	3.253	2.503	3-1/8	1.010
1 3/8	8-644	7/8	1	3.253	2.753	3-1/8	1.010
1 7/16	8-646	1-1/8	1	3.253	2.753	3-1/8	1.010
1 1/2	8-648	1-1/8	1	3.253	2.878	3-1/8	1.010
1 5/8	8-652	1	1-1/8	3.253	3.003	3-1/8	1.010
1 11/16	8-654	1-1/4	1-1/8	3.253	3.603	3-1/8	1.010
1 13/16	8-658	1-1/8	1-1/4	3.253	3.128	3-1/4	1.135
1 7/8	8-660	1-1/4	1-1/4	3.253	3.128	3-1/4	1.135
2	8-664	1-1/4	1-3/8	3.253	3.253	3-3/4	1.260
2 1/16	8-666	1-1/4	1-3/8	3.253	3.503	3-7/8	1.260
2 1/8	8-668	1-1/2	1-3/8	3.253	3.503	3-7/8	1.260
2 3/16	8-670	1-3/8	1-1/2	3.253	3.503	3-7/8	1.260
2 1/4	8-672	1-1/2	1-1/2	3.253	3.753	4	1.385
2 3/8	8-676	1-1/2	1-5/8	3.253	3.878	4-1/8	1.385
2 7/16	8-678	1-1/2	1-5/8	3.253	3.878	4-1/8	1.385
2 9/16	8-682	1-5/8	1-3/4	3.253	4.003	4-1/4	1.572
2 5/8	8-684	1-3/4	1-3/4	3.253	4.128	4-1/4	1.572
2 3/4	8-688	1-3/4	1-3/4	3.253	4.253	4-3/8	1.572
2 15/16	8-694	1-7/8	1-7/8	3.253	4.563	4-1/2	1.635
3	8-696	2	2	3.253	4.503	4-5/8	1.635
3 1/8	8-6100	2	2-1/4	3.253	4.753	4-5/8	1.760
3 3/8	8-6108	2	2-1/4	3.253	5.003	4-5/8	1.760
3 1/2	8-6112	2-1/4	2-1/4	3.253	5.128	4-5/8	1.760

"8" SERIES ACCESSORIES EXTENSIONS

No.	Lgth.	Square Male	Square Female
8-106	6	1-1/2	1-1/2
8-112	12	1-1/2	1-1/2

Male squares of Extensions are
furnished with through pin hole

For Retainer Pins and Neoprene Bands to fit above Sockets and Extensions see listing on this page.



NEOPRENE BANDS AND RETAINER PINS For "4" thru "8" SERIES



Neoprene Bands are specially designed for resistance to oil and grease. Retainer Pins are made of selected steel—oil finished.

Neoprene Bands and Retainer Pins are packaged separately, 24 of each to a box.

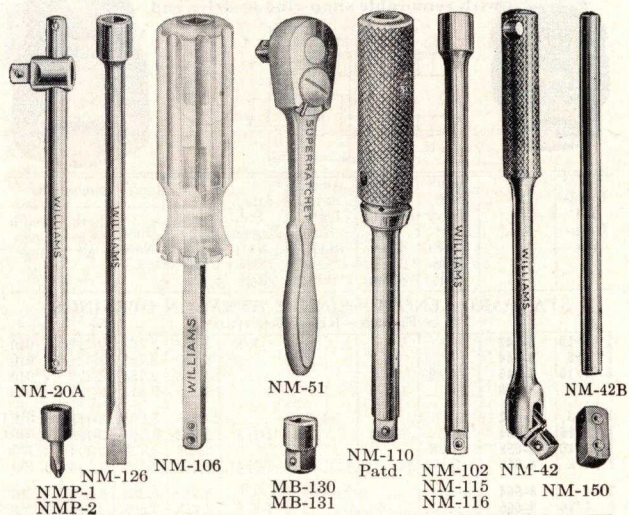
SPECIFICATIONS

Square Drive Size	Socket and Extension Nos.	NEOPRENE BANDS		RETAINER PINS	
		Inside Diameter	Length	Dimensions	
				Diameter	Length
1/2"	4-612 thru 4-628	7/8	3/16	7/8	
	4-630 thru 4-640	1-1/8	3/16	1-1/8	
	4-105 & 4-110	7/8	3/16	7/8	
	4-105A & 4-110A	7/8	3/16	7/8	
5/8"	5-616 thru 5-630	1-1/8	3/16	1-1/8	
	5-632 thru 5-648	1-3/8	3/16	1-1/8	
	5-106 & 5-110	1-1/8	3/16	1-1/8	
	5-106A & 5-110A	1-1/8	3/16	1-1/8	
3/4"	6-616 thru 6-638	1-3/8	3/16	1-1/8	
	6-640 thru 6-654	1-5/8	3/16	1-1/2	
	6-418 thru 6-426	1-3/8	3/16	1-1/8	
	6-826 thru 6-832	1-3/8	3/16	1-1/8	
	6-834 thru 6-840	1-5/8	3/16	1-1/2	
	16-618 thru 16-638	1-3/8	3/16	1-1/8	
	16-640 thru 16-652	1-5/8	3/16	1-1/2	
	6-107, 6-110, 6-113	1-3/8	3/16	1-1/2	
1"	7-624 thru 7-672	1-7/8	3/16	1-7/8	
	7-106 & 7-112	1-7/8	3/16	1-7/8	
	7-6	1-7/8	3/16	1-7/8	
	17-638	1-7/8	3/16	1-7/8	
1-1/2"	8-642 thru 8-6112	2-7/8	1/4	2-7/8	
	8-106 & 8-112	2-7/8	1/4	2-7/8	

See page 68 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.

WILLIAMS'
"Supersocket" WRENCHES

Selected Alloy Steel
MIDGET PATTERN—1/4" SQUARE DRIVE
HANDLES and PARTS



No.	PIECE	Wgt. Ea. Lbs.
NM-20A	Sliding T Handle—4-1/2" long.....	.1
NM-42	Flex Handle only—5-3/4" long; flexible head, knurled grip, crosshole for use with Sliding Bar.....	.25
NM-42B	Sliding Bar, 1/4" x 4-1/2", for NM-42.....	.08
NM-51	Reversible Ratchet—4-1/2" long. 24 teeth in Ratchet-gear instead of usual 14 to 20. Turning shift-lever reverses action instantly.....	.16
NM-102	Extension—2" long.....	.06
NM-106	Extension—Driver has plastic grip with 1/4" square drive-opening in end—6" long.....	.19
NM-110	Extension—Driver has lockable-revolving, knurled handle with 1/4" square drive-opening in end. May be used either as an Extension with handy revolving grip for spinning nuts, or as a Driver with handle locked. A slight turn of the handle locks and unlocks same instantly. 5-3/8" long.....	.34
NM-115	Extension—6" long.....	.17
NM-116	Extension—14" long.....	.35
NM-126	Regular Screw Driver Socket Attachment—6" long.....	.09
MB-130	Adapter—1/4" square female and 3/8" square male. Adapts Handles with 1/4" square drive to Sockets with 3/8" square drive.....	.05
MB-131	Adapter—1/4" square male and 3/8" square female. Adapts Sockets with 1/4" square drive to Handles with 3/8" square drive plug.....	.05
NM-150	Plug Adapter 3/4" long; both ends 1/4" sq. male.....	.02
NMP-1	Phillips Screw Driver Socket Attachment—No. 1.....	.02
NMP-2	Phillips Drive to fit screws No. 4 and smaller.....	.02
	Phillips Drive to fit screws Nos. 5 to 9 inclusive.....	.03

SOCKETS

Williams Midget Electrical Sockets are unequalled in cramped quarters.

Their thin, straight walls enable them to operate readily on troublesome little jobs where no ordinary socket or wrench could even get in and grip the nut.

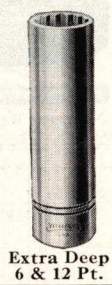
Accurately made from Selected Alloy Steel, heat-treated and chrome-plated.

All Sockets packed 6 in a box.



Reg. 6 & 12 Pt.

Reg. 4 & 8 Pt.



Extra Deep
6 & 12 Pt.

Nominal Opening	6 AND 12-POINT OPENINGS FOR HEX NUTS						4 AND 8-POINT OPENINGS					
	6-Point Sockets		12-Point Sockets		*Extra Deep 6 and 12-Point Sockets							
	No.	Wgt. Each, Lbs.	No.	Wgt. Each, Lbs.	No.	Wgt. Each, Lbs.	Socket No.	Wgt. Each, Lbs.	Nominal Opening			
3/16	NM-606	.01					NM-406	.03	3/16			
7/32	NM-607	.02					NM-407	.03	7/32			
1/4	NM-608	.02			NMD-608	.03	NM-408	.03	1/4			
9/32	NM-609	.02			NMD-609	.03						
5/16			NM-1210	.02	NMD-1210	.04	NM-810	.03	5/16			
11/32			NM-1211	.03	NMD-1211	.04						
3/8			NM-1212	.03	NMD-1212	.04	NM-812	.05	3/8			
7/16			NM-1214	.04	NMD-1214	.04						
1/2			NM-1216	.05								

* 2" long.

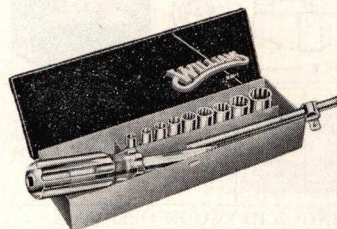
REGISTERED TRADE MARK

WILLIAMS'

"Supersocket" WRENCH SETS

Selected Alloy Steel

MIDGET PATTERN—1/4" SQUARE DRIVE



SET No. NM-1

Complete in Metal Case

11 Pieces

9 Sockets and 2 Attachments

Total Weight, 1-1/8 lbs.

2 Color Steel Case Only

1-1/8 x 2-1/8 x 7"

Weight, 5/8 lb.

CONTENTS

One Ea. No.	Description	One Ea. No.	Description
NM-606	3/16"— 6 Pt. Socket	NM-1212	3/8" —12 Pt. Socket....
NM-607	7/32"— 6 Pt. Socket	NM-1214	7/16"—12 Pt. Socket....
NM-608	1/4" — 6 Pt. Socket	NM-1216	1/2" —12 Pt. Socket....
NM-609	9/32"— 6 Pt. Socket	NM-20A	Sliding T Handle, 4-1/2"
NM-1210	5/16"—12 Pt. Socket	NM-51	Reversible Ratchet, 4-1/2"
NM-1211	11/32"—12 Pt. Socket	NM-106	Extension, Plastic Grip, 6"

SET No. NM-2

Complete
in Metal Case

13 Pieces

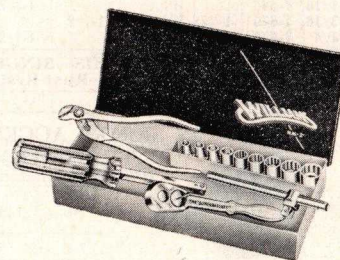
9 Sockets, 3 Attachments
and 1 Plier

Total Weight, 1-5/8 lbs.

2 Color Steel Case Only

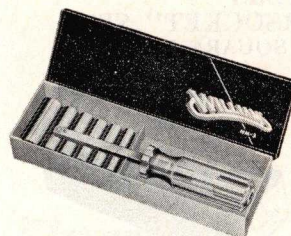
1-1/8 x 3-1/4 x 7-1/2"

Weight, 7/8 lb.



CONTENTS

One Ea. No.	Description	One Ea. No.	Description
NM-606	3/16"— 6 Pt. Socket	NM-1214	7/16"—12 Pt. Socket....
NM-607	7/32"— 6 Pt. Socket	NM-1216	1/2" —12 Pt. Socket....
NM-608	1/4" — 6 Pt. Socket	NM-20A	Sliding T Handle, 4-1/2"
NM-609	9/32"— 6 Pt. Socket	NM-51	Reversible Ratchet, 4-1/2"
NM-1210	5/16"—12 Pt. Socket	NM-106	Extension, Plastic Grip, 6"
NM-1211	11/32"—12 Pt. Socket	1519	4-1/2" "Superpliers"....
NM-1212	3/8" —12 Pt. Socket		



SET No. NM-3

Complete in Metal Case

7 Pieces

6 Sockets and 1 Attachment

Total Weight, 1-1/8 lbs.

2 Color Steel Case Only

1-1/8 x 2-1/8 x 7"

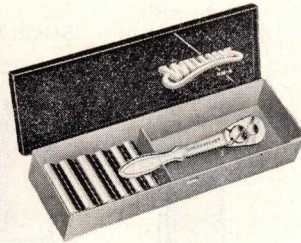
Weight, 5/8 lb.

CONTENTS

One Each No.	Description	One Each No.	Description
NMD-608	1/4" 6 Pt. Deep Skt.	NMD-1212	3/8" 12 Pt. Deep Skt.
NMD-609	9/32" 6 Pt. Deep Skt.	NMD-1214	7/16" 12 Pt. Deep Skt.
NMD-1210	5/16" 12 Pt. Deep Skt.	NM-106	Exten. Plastic Grip, 6"
NMD-1211	11/32" 12 Pt. Deep Skt.		

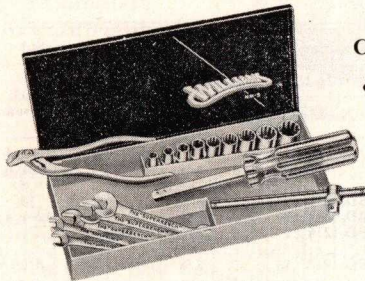
WILLIAMS' ♦“SUPERSOCKET” WRENCH SETS Selected Alloy Steel MIDGET PATTERN — 1/4" SQUARE DRIVE

SET No. NM-4
Complete in Metal Case
7 Pieces
6 Sockets and 1 Attachment
Total Weight, 1 lb.
2 Color Steel Case Only
1-1/8 x 2-1/8 x 7"
Weight, 5/8 lb.



CONTENTS

One Each No.	Description	One Each No.	Description
NMD-608	1/4" 6 Pt. Deep Skt.	NMD-1212	3/8" 12 Pt. Deep Skt.
NMD-609	9/32" 6 Pt. Deep Skt.	NMD-1214	7/16" 12 Pt. Deep Skt.
NMD-1210	5/16" 12 Pt. Deep Skt.	NM-51	Revers. Ratchet, 4-1/2"
NMD-1211	11/32" 12 Pt. Deep Skt.		



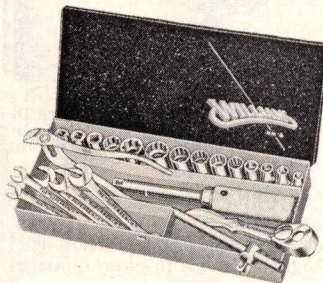
SET No. NM-5
Complete in Metal Case
17 Pieces
9 Sockets, 2 Attachments,
5 Wrenches and 1 Plier

Total Wgt, 1-5/8 lbs.
2 Color Steel Case Only
1-1/8 x 3-1/4 x 7-1/2"
Weight, 7/8 lb.

CONTENTS

One Ea. No.	Description	One Ea. No.	Description
NM-606	3/16" 6 Pt. Socket	NM-20A	Sliding T Handle, 4-1/2"
NM-607	7/32" 6 Pt. Socket	NM-106	Extension, Plastic Grip, 6"
NM-608	1/4" 6 Pt. Socket	1519	4-1/2" "Superpliers"
NM-609	9/32" 6 Pt. Socket	1106	13/64 & 7/32" Midget Wr.
NM-1210	5/16" 12 Pt. Socket	1107	15/64 & 1/4" Midget Wr.
NM-1211	11/32" 12 Pt. Socket	1108	9/32 & 11/32" Midget Wr.
NM-1212	3/8" 12 Pt. Socket	1108A	1/4 & 5/16" Midget Wr.
NM-1214	7/16" 12 Pt. Socket	1109	5/16 & 3/8" Midget Wr.
NM-1216	1/2" 12 Pt. Socket		

SET No. NM-6
Complete in Metal Case
23 Pieces
14 Sockets, 3 Attachments,
5 Wrenches and 1 Plier
Total Weight, 2-1/8 lbs.
2 Color Steel Case Only
1-1/8 x 3-1/4 x 7-1/2"
Weight, 1 lb.

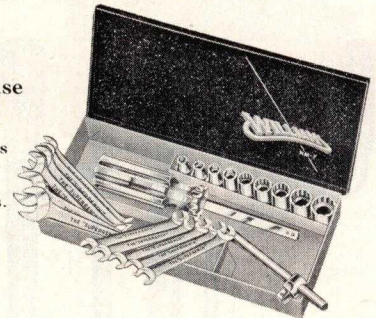


CONTENTS

One Ea. No.	Description	One Ea. No.	Description
NM-406	3/16" 4 Pt. Socket	NM-1214	7/16" 12 Pt. Socket
NM-407	7/32" 4 Pt. Socket	NM-1216	1/2" 12 Pt. Socket
NM-408	1/4" 4 Pt. Socket	NM-20A	Sliding T Handle, 4-1/2"
NM-606	3/16" 6 Pt. Socket	NM-51	Reversible Ratchet, 4-1/2"
NM-607	7/32" 6 Pt. Socket	NM-110	Extension Driver, 5-3/8"
NM-608	1/4" 6 Pt. Socket	1519	4-1/2" "Superpliers"
NM-609	9/32" 6 Pt. Socket	1106	13/64 & 7/32" Midget Wr.
NM-810	5/16" 8 Pt. Socket	1107	15/64 & 1/4" Midget Wr.
NM-812	3/8" 8 Pt. Socket	1108	9/32 & 11/32" Midget Wr.
NM-1210	5/16" 12 Pt. Socket	1108A	1/4 & 5/16" Midget Wr.
NM-1211	11/32" 12 Pt. Socket	1109	5/16 & 3/8" Midget Wr.
NM-1212	3/8" 12 Pt. Socket		

WILLIAMS' ♦“SUPERSOCKET” WRENCH SETS Selected Alloy Steel MIDGET PATTERN — 1/4" SQUARE DRIVE

SET No. NM-7
Complete in Metal Case
22 Pieces
9 Sockets, 2 Attachments
and 11 Wrenches
Total Weight, 1-3/4 lbs.
2 Color Steel Case Only
1-1/8 x 3-1/4 x 7-1/2"
Weight, 7/8 lb.



CONTENTS

One Each No.	Description	One Each No.	Description
NM-606	3/16" 6 Pt. Socket	1112	3/16 & 3/16" Midget Wr.
NM-607	7/32" 6 Pt. Socket	1113	13/64 & 13/64" Midget Wr.
NM-608	1/4" 6 Pt. Socket	1114	7/32 & 7/32" Midget Wr.
NM-609	9/32" 6 Pt. Socket	1115	15/64 & 15/64" Midget Wr.
NM-1210	5/16" 12 Pt. Socket	1116	1/4 & 1/4" Midget Wr.
NM-1211	11/32" 12 Pt. Socket	1118	9/32 & 9/32" Midget Wr.
NM-1212	3/8" 12 Pt. Socket	1120	5/16 & 5/16" Midget Wr.
NM-1214	7/16" 12 Pt. Socket	1122	11/32 & 11/32" Midget Wr.
NM-1216	1/2" 12 Pt. Socket	1124	3/8 & 3/8" Midget Wr.
NM-20A	Sliding T Handle, 4-1/2"	1128	7/16 & 7/16" Midget Wr.
NM-106	Extens., Plastic Grip, 6"	1132	1/2 & 1/2" Midget Wr.



SET No. NM-8
Complete in Metal Case

45 Pieces
20 Sockets, 9 Attachments,
15 Wrenches and 1 Plier
Total Weight, 4 lbs.
2 Color Steel Case Only
1-3/8 x 5-7/8 x 8"
Weight, 1-5/8 lbs.

CONTENTS

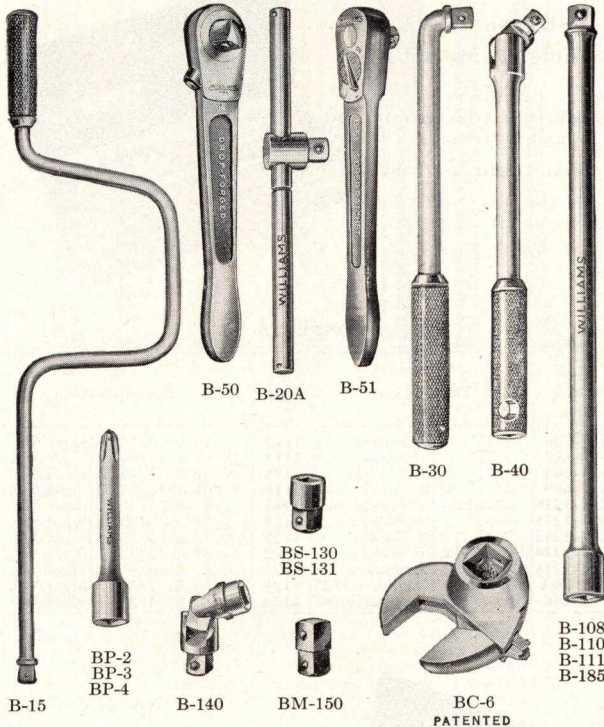
One Ea. No.	Description	One Ea. No.	Description
NM-406	3/16" 4 Pt. Socket	NM-51	Reversible Ratchet, 4-1/2"
NM-407	7/32" 4 Pt. Socket	NM-106	Extension, Plastic Grip, 6"
NM-408	1/4" 4 Pt. Socket	NM-110	Extension Driver, 5-3/8"
NM-606	3/16" 6 Pt. Socket	NM-126	Screw Driver Attachment, 6"
NM-607	7/32" 6 Pt. Socket	NMP-1	Phillips No. 1 Driver Attach.
NM-608	1/4" 6 Pt. Socket	NMP-2	Phillips No. 2 Driver Attach.
NM-609	9/32" 6 Pt. Socket	1519	4-1/2" "Superpliers"
NM-810	5/16" 8 Pt. Socket	1112	3/16 & 3/16" Midget Wr.
NM-812	3/8" 8 Pt. Socket	1113	13/64 & 13/64" Midget Wr.
NM-1210	5/16" 12 Pt. Socket	1114	7/32 & 7/32" Midget Wr.
NM-1211	11/32" 12 Pt. Socket	1115	15/64 & 15/64" Midget Wr.
NM-1212	3/8" 12 Pt. Socket	1116	1/4 & 1/4" Midget Wr.
NM-1214	7/16" 12 Pt. Socket	1118	9/32 & 9/32" Midget Wr.
NM-1216	1/2" 12 Pt. Socket	1120	5/16 & 5/16" Midget Wr.
NMD-608	1/4" 6 Pt. Deep Socket	1122	11/32 & 11/32" Midget Wr.
NMD-609	9/32" 6 Pt. Deep Socket	1124	3/8 & 3/8" Midget Wr.
NMD-1210	5/16" 12 Pt. Deep Socket	1128	7/16 & 7/16" Midget Wr.
NMD-1211	11/32" 12 Pt. Deep Socket	1132	1/2 & 1/2" Midget Wr.
NMD-1212	3/8" 12 Pt. Deep Socket	1150	13/64 & 3/16" Mid. Box Wr.
NMD-1214	7/16" 12 Pt. Deep Socket	1151	15/64 & 7/32" Mid. Box Wr.
NM-20A	Sliding T Handle, 4-1/2"	1152	9/32 & 1/4" Mid. Box Wr.
NM-42	Flex Handle, 5-3/4"	1153	11/32 & 5/16" Mid. Box Wr.
NM-42B	Sliding Bar for NM-42		

WILLIAMS'

♦♦"SUPERSOCKET" WRENCHES

Selected Alloy Steel

BANTAM PATTERN—3/8" SQUARE DRIVE
HANDLES and PARTS



No.	PIECE	Weight Each, Lbs.
BP-2	Phillips Screw Driver Socket Attachment—No. 2 Phillips Drive to fit Screws Nos. 5 to 9 inclusive.	.06
BP-3	Phillips Screw Driver Socket Attachment—No. 3 Phillips Drive to fit Screws Nos. 10 to 16 inclusive.	.13
BP-4	Phillips Screw Driver Socket Attachment—No. 4 Phillips Drive to fit No. 18 and larger.	.13
BC-6	Adjustable Crowfoot Attachment—Capacity, 3/4" —May be used with any combination of 3/8" square drive Handles or Parts.	.19
B-15	Speeder—16-1/2" long; Knurled revolving grip.	1.1
B-20A	Sliding T Handle—6-1/2" long.	.26
B-30	Offset Handle—7-3/4" long; Knurled grip.	.50
B-40	Flex Handle—8-1/2" long; flexible head. Knurled grip with 3/8" square drive hole in end; 3/8" cross hole for Sliding Bar—may be used as Extension.	.57
B-42B	Sliding Bar, 5/16" rd. x 6", for B-40.	.08
B-50	Drop-Forged Ratchet—6-1/2" long; complete with No. B-150 Plug-Connector.	.43
B-50A	Ratchet—Same as B-50 above, but with 1/4" square drive-opening in ratchet wheel and 1/4" square hole near end of handle, for Refrigeration Service. Without Plug-Connector.	.43
B-50B	Ratchet—Same as B-50, but with 5/16" square drive-opening. No Plug-Connector.	.43
B-51	Reversible Ratchet—6-1/2" long. 24 teeth in ratchet-gear instead of usual 14 or 16. Turning shift-lever reverses action instantly.	.44
B-51A	Reversible Ratchet for Refrigeration Service— same as B-51, but has both 3/8" square male and 1/4" square female ratchet drive. Also has 3/16" and 1/4" square drive holes in handle end.	.44
B-108	Extension Bar—3" long.	.16
B-110	Extension Bar—5-1/2" long.	.23
B-115	Extension Bar—10-1/2" long.	.44
B-118	Extension Bar—18" long.	.44
BS-130	Adapter—3/8" square female and 1/2" square male.	.13
BS-131	Adapter—3/8" square male and 1/2" square female.	.15
B-140	Universal Joint—Fitted with spring tension to maintain operating angle desired—range approx. 140°.	.13
B-150	Ratchet Plug-Connector for B-50 Ratchet.	.03
BM-150	Adapter—3/8" square male and 1/4" square male.	.03

♦ REGISTERED TRADE MARK

WILLIAMS'

♦♦"SUPERSOCKET" WRENCHES

Selected Alloy Steel

BANTAM PATTERN—3/8" SQUARE DRIVE

SOCKETS



Williams "Bantam" Sockets with thin walls get in and service "buried" nuts in close and awkward corners. These "Supersockets" are accurately made from Selected Alloy Steel, heat-treated and chrome-plated. All Sockets packed 6 in a box.

Size Open- ing	6-Point Openings		12-Point Openings				Amer. Std. Heavy Nut (USS)	Amer. Std. Hex Head Cap Screw	Amer. Std. Light Nut (SAE)	Amer. Std	
	Regular		Regular		‡Extra Deep					Reglr. Nut	Mach. Screw
	No.	Wt. Ea.	No.	Wt. Ea.	No.	Wt. Ea.					
1/4	B-608	.04									No. 4
5/16	B-610	.04	B-1210	.04			1/8	1/8			5 & 6
11/32	B-611	.05	B-1211	.05							8
3/8	B-612	.05	B-1212	.05	BD-1212	.09		3/16			10
7/16	B-614	.05	B-1214	.05	BD-1214	.1	1/4	1/4	1/4	1/4	12-1/4
1/2	B-616	.06	B-1216	.06	BD-1216	.1	1/4	5/16	5/16		
17/32			B-1217	.07							
9/16	B-618	.07	B-1218	.07	BD-1218	.13		3/8	3/8	5/16	5/16
19/32			B-1219	.08			5/16				
5/8	B-620	.09	B-1220	.09	BD-1220	.16		7/16	7/16	3/8	3/8
11/16	B-622	.11	B-1222	.11	BD-1222	.22	3/8				
3/4	B-624	.13	B-1224	.13	BD-1224	.22		1/2	1/2	7/16	
13/16			B-1226	.15	BD-1226	.24		9/16		1/2	
7/8			B-1228	.17			1/2	5/8	9/16	9/16	

† 2 to 2-5/8" long has Cross Hole for 9/32" Bar.

SOCKETS



All Universal Sockets have an operating range of approximately 130° and are fitted with spring tension to maintain the operating angle desired. Crowfoot attachments are designed for use in close quarters and fit all Bantam attachments.

Size Open- ing	12-Point Universal Sockets		Crowfoot Wrench Attachments		4 AND 8-POINT OPENINGS		
	No.	Wgt. Each	No.	Wgt. Each	No.	Wgt. Each	Size Open- ing
3/8	BU-1212	.09	BC-1700	.08	† B-409	.05	9/32
7/16	BU-1214	.09	BC-1701	.08	*BD-814	.09	7/16
1/2	BU-1216	.09	BC-1001	.11			
9/16	BU-1218	.1	BC-1702	.11	*BD-816	.13	1/2
5/8	BU-1220	.11	BC-1703	.18			
11/16	BU-1222	.11	BC-1003	.18	*BD-818	.14	9/16
3/4	BU-1224	.13			*BD-820	.18	5/8

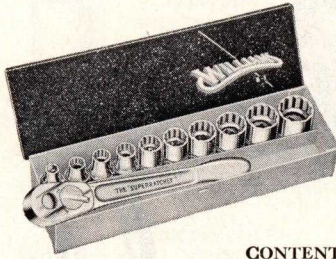
† 4-Point Socket for use on Torque Converter Drain Plug (Dynaflow).

* Extra Deep 8-Point Sockets—1-1/2" long.

See page 68 for New American Standard Square and Hexagon
Bolts and Nuts, as related to nominal wrench openings.

DROP - FORGINGS AND **WILLIAMS** DROP - FORGED TOOLS

WILLIAMS' ♦“SUPERSOCKET” WRENCH SETS Selected Alloy Steel BANTAM PATTERN — 3/8" Square Drive

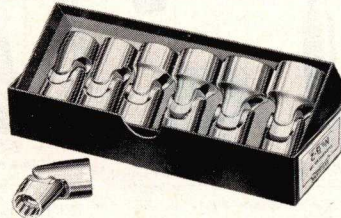


SET No. B-1
Complete
in Metal Case
11 Pieces
10 Sockets and
1 Attachment
Total Weight, 1-3/4 lbs.
2 Color Steel Case Only
1-3/4 x 2-1/4 x 7-3/4"
Weight, 3/4 lb.

CONTENTS

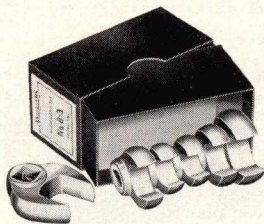
One Ea. No.	Description	One Ea. No.	Description
B-608	1/4" — 6 Pt. Socket ...	B-1218	9/16" — 12 Pt. Socket ...
B-1210	5/16" — 12 Pt. Socket ...	B-1220	5/8" — 12 Pt. Socket ...
B-1211	11/32" — 12 Pt. Socket ...	B-1222	11/16" — 12 Pt. Socket ...
B-1212	3/8" — 12 Pt. Socket ...	B-1224	3/4" — 12 Pt. Socket ...
B-1214	7/16" — 12 Pt. Socket ...	B-51	Reversible Ratchet, 6-1/2"
B-1216	1/2" — 12 Pt. Socket ...		

SET No. B-2
Complete
in Cardboard Box
7 Pieces
Weight, 3/4 lb.



CONTENTS

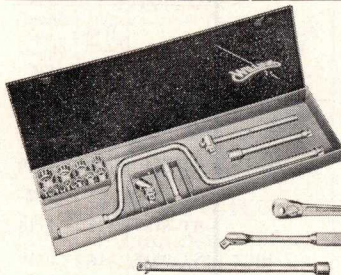
One Ea. No.	Description	One Ea. No.	Description
BU-1212	3/8" 12 Pt. Univ. Socket	BU-1220	5/8" 12 Pt. Univ. Socket
BU-1214	7/16" 12 Pt. Univ. Socket	BU-1222	11/16" 12 Pt. Univ. Socket
BU-1216	1/2" 12 Pt. Univ. Socket	BU-1224	3/4" 12 Pt. Univ. Socket
BU-1218	9/16" 12 Pt. Univ. Socket		



SET No. B-3
Complete
in Cardboard Box
6 Pieces
Weight, 1/2 lb.

CONTENTS

One Ea. No.	Description	One Ea. No.	Description
BC-1700	3/8" Crowfoot Attach.	BC-1702	9/16" Crowfoot Attach.
BC-1701	7/16" Crowfoot Attach.	BC-1703	5/8" Crowfoot Attach.
BC-1001	1/2" Crowfoot Attach.	BC-1003	11/16" Crowfoot Attach.



SET No. B-4
Complete
in Metal Case
18 Pieces
10 Sockets and
8 Attachments
Total Weight, 6-3/8 lbs.
2 Color Steel Case Only
1-1/4 x 5-1/4 x 17-3/4"
Weight, 2-5/8 lbs.

CONTENTS

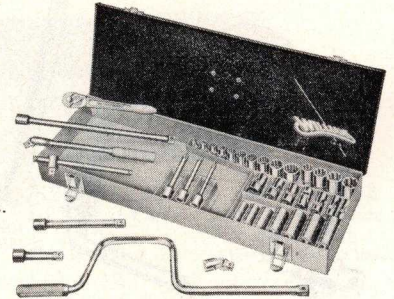
One Ea. No.	Description	One Ea. No.	Description
B-608	1/4" 6 Pt. Socket ...	B-1224	3/4" 12 Pt. Socket ...
B-1210	5/16" 12 Pt. Socket ...	B-15	Speeder, Revol. Grip, 16-1/2"
B-1211	11/32" 12 Pt. Socket ...	B-20A	Sliding T Hxndle, 6-1/2" ...
B-1212	3/8" 12 Pt. Socket ...	B-40	Flex Handle, 8-1/2" ...
B-1214	7/16" 12 Pt. Socket ...	B-51	Reversible Ratchet, 6-1/2" ...
B-1216	1/2" 12 Pt. Socket ...	B-108	Extension Bar, 3" ...
B-1218	9/16" 12 Pt. Socket ...	B-110	Extension Bar, 5-1/2" ...
B-1220	5/8" 12 Pt. Socket ...	B-115	Extension Bar, 10-1/2" ...
B-1222	11/16" 12 Pt. Socket ...	B-140	Universal Joint, ...

♦ REGISTERED TRADE MARK

WILLIAMS' ♦“SUPERSOCKET” WRENCH SETS Selected Alloy Steel BANTAM PATTERN — 3/8" Square Drive

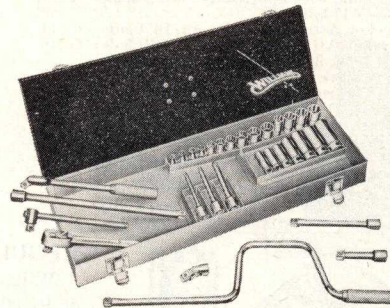
SET No. B-5

Complete
in Metal Case
39 Pieces
28 Sockets and
11 Attachments
Total Weight, 11-3/8 lbs.
2 Color Steel Case Only
2 x 6-1/2 x 19-1/4"
Weight, 5 lbs.



CONTENTS

One Ea. No.	Description	One Ea. No.	Description
B-608	1/4" 6 Pt. Socket ...	BD-1226	13/16" 12 Pt. Deep Socket ...
B-1210	5/16" 12 Pt. Socket ...	BU-1212	3/8" 12 Pt. Univ. Socket ...
B-1211	11/32" 12 Pt. Socket ...	BU-1214	7/16" 12 Pt. Univ. Socket ...
B-1212	3/8" 12 Pt. Socket ...	B-1216	1/2" 12 Pt. Univ. Socket ...
B-1214	7/16" 12 Pt. Socket ...	BU-1218	9/16" 12 Pt. Univ. Socket ...
B-1216	1/2" 12 Pt. Socket ...	BU-1220	5/8" 12 Pt. Univ. Socket ...
B-1218	9/16" 12 Pt. Socket ...	BU-1222	11/16" 12 Pt. Univ. Socket ...
B-1220	5/8" 12 Pt. Socket ...	BU-1224	3/4" 12 Pt. Univ. Socket ...
B-1222	11/16" 12 Pt. Socket ...	B-15	Speeder, Revol. Grip, 16-1/2"
B-1224	3/4" 12 Pt. Socket ...	B-20A	Sliding T Handle, 6-1/2" ...
BD-814	7/16" 8 Pt. Deep Skt.	B-40	Flex Handle, 8-1/2" ...
BD-816	1/2" 8 Pt. Deep Skt.	B-51	Reversible Ratchet, 6-1/2" ...
BD-818	9/16" 8 Pt. Deep Skt.	B-108	Extension Bar, 3" ...
BD-820	5/8" 8 Pt. Deep Skt.	B-110	Extension Bar, 5-1/2" ...
BD-1214	7/16" 12 Pt. Deep Skt.	B-115	Extension Bar, 10-1/2" ...
BD-1216	1/2" 12 Pt. Deep Skt.	B-140	Universal Joint, ...
BD-1218	9/16" 12 Pt. Deep Skt.	BP-2	Phillips No. 2 Driver Attach.
BD-1220	5/8" 12 Pt. Deep Skt.	BP-3	Phillips No. 3 Driver Attach.
BD-1222	11/16" 12 Pt. Deep Skt.	BP-4	Phillips No. 4 Driver Attach.
BD-1224	3/4" 12 Pt. Deep Skt.		



SET No. B-6
Complete
in Metal Case
32 Pieces
21 Sockets and
11 Attachments
Total Weight, 10-1/2 lbs.
2 Color Steel Case Only
2 x 6-1/2 x 19-1/4"
Weight, 4-7/8 lbs.

CONTENTS

One Ea. No.	Description	One Ea. No.	Description
B-608	1/4" 6 Pt. Socket ...	BD-1218	9/16" 12 Pt. Deep Socket ...
B-1210	5/16" 12 Pt. Socket ...	BD-1220	5/8" 12 Pt. Deep Socket ...
B-1211	11/32" 12 Pt. Socket ...	BD-1222	11/16" 12 Pt. Deep Socket ...
B-1212	3/8" 12 Pt. Socket ...	BD-1224	3/4" 12 Pt. Deep Socket ...
B-1214	7/16" 12 Pt. Socket ...	BD-1226	13/16" 12 Pt. Deep Socket ...
B-1216	1/2" 12 Pt. Socket ...	B-15	Speeder, Revol. Grip, 16-1/2"
B-1218	9/16" 12 Pt. Socket ...	B-20A	Sliding T Handle, 6-1/2" ...
B-1220	5/8" 12 Pt. Socket ...	B-40	Flex Handle, 8-1/2" ...
B-1222	11/16" 12 Pt. Socket ...	B-51	Reversible Ratchet, 6-1/2" ...
B-1224	3/4" 12 Pt. Socket ...	B-108	Extension Bar, 3" ...
BD-814	7/16" 8 Pt. Deep Skt.	B-110	Extension Bar, 5-1/2" ...
BD-816	1/2" 8 Pt. Deep Skt.	B-115	Extension Bar, 10-1/2" ...
BD-818	9/16" 8 Pt. Deep Skt.	B-140	Universal Joint, ...
BD-820	5/8" 8 Pt. Deep Skt.	BP-2	Phillips No. 2 Driver Attach.
BD-1214	7/16" 12 Pt. Deep Skt.	BP-3	Phillips No. 3 Driver Attach.
BD-1216	1/2" 12 Pt. Deep Skt.	BP-4	Phillips No. 4 Driver Attach.

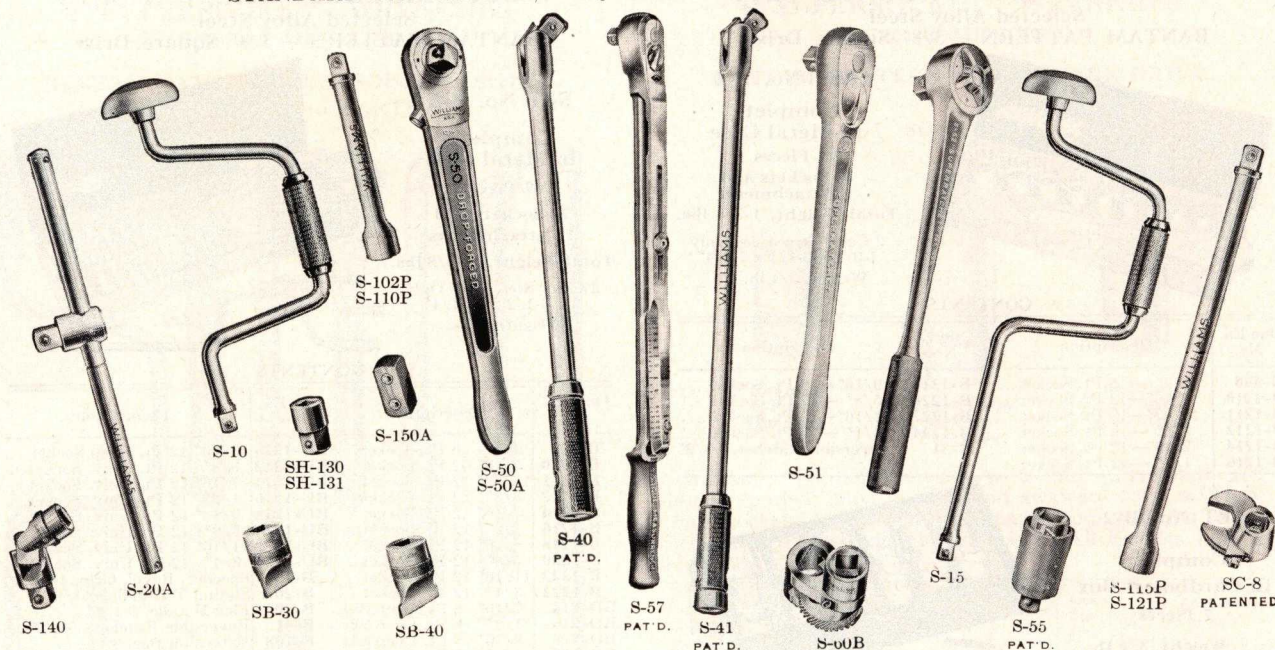
SET No. B-7
Complete
in Cardboard Box
10 Pieces
Weight, 3/4 lb.



CONTENTS

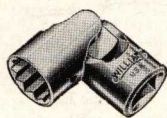
One Ea. No.	Description	One Ea. No.	Description
B-608	1/4" 6 Pt. Socket ...	B-616	1/2" 6 Pt. Socket ...
B-610	5/16" 6 Pt. Socket ...	B-618	9/16" 6 Pt. Socket ...
B-611	11/32" 6 Pt. Socket ...	B-620	5/8" 6 Pt. Socket ...
B-612	3/8" 6 Pt. Socket ...	B-622	11/16" 6 Pt. Socket ...
B-614	7/16" 6 Pt. Socket ...	B-624	3/4" 6 Pt. Socket ...

WILLIAMS' "SUPERSOCKET" WRENCHES

Selected Alloy Steel
STANDARD PATTERN — 1/2" SQUARE DRIVE — HANDLES AND PARTS

No.	PIECE	Weight Ea., Lbs.
SC-8	Adjustable Crowfoot Attachment—Capacity, 15/16"	.37
S-10	Speeder—12" long, with knurled revolving grips	1.8
S-15	Speeder—17-1/2" long, with knurled revolving grips	2
S-20A	Sliding T Handle—11" long	.96
SB-30	Screw Driver Socket Attach.—7/64 x 15/16" blade	.14
SB-40	Screw Driver Socket Attach.—3/32 x 1-1/4" blade	.16
S-40	Flex Handle—12" long; flexible head. Knurled grip with 1/2" square drive hole in end—may be used as Extension; 7/16" round cross hole for Bar	1.4
S-41	Flex Handle—17-1/4" flexible head. Knurled grip—1/2" square drive hole in end for use as Extension; 7/16" round cross hole for Bar	1.9
S-42B	Sliding Bar, 7/16" x 9", for Flex Hdle. S-40 and S-41	.35
S-50	Ratchet—10" long, with Locked-in Plug Connector	1.3
S-50A	Ratchet—10" long, without Plug Connector	1.3
S-51	Reversible Ratchet—10-1/2" long, 24 teeth in Ratchet gear. Shift-lever reverses action instantly	1.4

No.	PIECE	Wgt. Ea., Lbs.
S-52	Reversible Ratchet—11-1/4" long. Concentric type mechanism of 82 tooth action permits rotation of nuts in close quarters. Shifter reverses action instantly	1.2
S-55	Reversible Ratchet Adapter—2-9/16" long; outside diameter 1-1/4". Shift-lever reverses action instantly	.5
S-57	Torque "Measurrench"—19-1/2" long; indicates R.H. Torque. Has torque-indicating signal. See page 38.	3.7
S-60B	Stud Remover—1/2" sq. dr. Stud capacity 1/4" to 3/4"	.52
S-102P	Extension Bar—2-1/2" long	.27
S-110P	Extension Bar—5-1/2" long	.53
S-115P	Extension Bar—10-1/2" long	1
S-121P	Extension Bar—20" long	2.1
SH-130	Adapter—1/2" square female and 3/4" square male	.31
SH-131	Adapter—1/2" square male and 3/4" square female	.44
S-140	Universal Joint—Spring tension maintains angle desired	.34
S-150A	Ratchet Plug-Connector for S-50 Ratchet	.08

Regular
6-Point
OpeningRegular
12-Point
OpeningUniversal
12-Point
OpeningRegular
8-Point
Opening

REGULAR SOCKETS

Williams Standard Sockets, with 6-point, 12-point and 8-point openings as listed below, have thin walls for work in close places.

All Universal Sockets have an operating range of approximately 130° and are fitted with spring tension to maintain the operating angle desired. Accurately made from Selected Alloy Steel, heat-treated and chrome-plated. All sockets packed 6 in a box.

Whitworth Standard and Metric sizes listed on page 66.

Nominal Opening	6 AND 12-POINT OPENINGS FOR HEX NUTS										8-POINT OPENINGS		
	Straight Wall 6-Point Sockets		Straight Wall 12-Point Sockets		Universal 12-Point Sockets		For Amer. Std. Heavy Nut (U.S.S.); Size Bolt	For Amer. Std. Hex Head Cap Screw Diam. Screw	For Amer. Std. Light Nut (S.A.E.); Size Bolt	For Amer. Std. Regular Nut; Size Bolt	No.	Wgt. Each, Lbs.	Nominal Open- ing
	No.	Wgt. Ea.	No.	Wgt. Ea.	No.	Wgt. Ea.							
3/8	ST-612	.10	ST-1212	.10				3/16			ST-810	.14	5/16
7/16	ST-614	.11	ST-1214	.11				1/4	1/4	1/4	ST-812	.14	3/8
1/2	ST-616	.12	ST-1216	.12	SU-1216	.24	1/4	5/16	5/16		ST-814	.14	7/16
9/16	ST-618	.12	ST-1218	.12	SU-1218	.25		3/8	3/8	5/16			
* 9/16	SF-618	.13	SF-1218	.13			5/16				ST-816	.17	1/2
19/32	ST-619	.13	ST-1219	.13							ST-818	.23	9/16
5/8	ST-620	.14	ST-1220	.14	SU-1220	.26		7/16	7/16	3/8			
21/32	ST-621	.14	ST-1221	.14							ST-818	.23	9/16
11/16	ST-622	.16	ST-1222	.16	SU-1222	.27	3/8			7/16	ST-818	.23	9/16
3/4	ST-624	.19	ST-1224	.19	SU-1224	.29		1/2	1/2	7/16	ST-818	.23	9/16
25/32	ST-625	.21	ST-1225	.21			7/16				ST-818	.23	9/16
13/16	ST-626	.24	ST-1226	.24				9/16	9/16	1/2	ST-818	.23	9/16
7/8	ST-628	.28	ST-1228	.28			1/2	5/8	9/16	9/16	ST-818	.23	9/16
15/16	ST-630	.32	ST-1230	.32			9/16		5/8		ST-818	.23	9/16
31/32			ST-1231	.34							ST-818	.23	9/16
1	ST-632	.38	ST-1232	.38				3/4		5/8	ST-818	.23	9/16
1 1/16			ST-1234	.39			5/8		3/4		ST-818	.23	9/16
1 1/8			ST-1236	.43				7/8		3/4	ST-818	.23	9/16
1 3/16			ST-1238	.51							ST-818	.23	9/16
1 1/4			ST-1240	.53			3/4		7/8		ST-818	.23	9/16

* All Ford 6, Ford-Mercury V-8, 85 HP, 90 HP and 100 HP Connecting Rods. Use with Torque wrench required on models having "Marsden" self-locking nuts. Not guaranteed because of extra thin walls.

† For all Ford V-8 85 HP Main Bearing bolt heads.

♦ REGISTERED TRADE MARK

See page 68 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.

WILLIAMS' ♦♦"SUPERSOCKET" WRENCHES Selected Alloy Steel

**STANDARD PATTERN—1/2" SQUARE DRIVE
EXTRA DEEP 12-POINT SOCKETS**



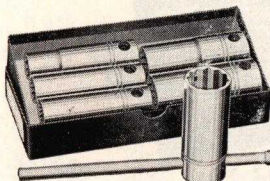
Especially designed for Spark Plug and other service, such as U Bolts and Brake-Rod-Ends, where the nuts lie some distance from the outer end of the threaded stem. Their 12-point openings permit operation in close quarters where the handle can be swung only 30°.

Carefully made from Selected Alloy Steel, heat-treated and chrome-plated. Packed 3 in a box.

12-Point Opening	EXTRA DEEP Sockets			Amer. Std. Heavy Nut (USS); Size Bolt	Amer. Std. Hex Head Cap Screw; Diam. Screw	Amer. Std. Light Nut (SAE); Size Bolt	Amer. Std. Regl. Nut; Size Bolt
	No.	Length	Wgt. Ea.				
1/2	SD-1216	3-1/4	.26	1/4	5/16	5/16	.....
* 9/16	SD-1218	3-1/4	.26	.....	3/8	3/8	5/16
* 5/8	SD-1220	3-1/4	.26	.....	7/16	7/16	3/8
* 11/16	SD-1222	3-1/4	.26	3/8	1/2	1/2	7/16
3/4	SD-1224	3-1/4	.37	.....	.....	.....	.....
25/32	SD-1225	3-1/4	.37	7/16	.....	.....	.....
* 13/16	SD-1226	3-1/4	.37	.....	9/16	.....	1/2
7/8	SD-1228	3-1/4	.45	1/2	5/8	9/16	9/16
† 7/8	SD-1228T	3-1/4	.29	.....	.....	.....	.....
* 15/16	SD-1230	3-1/4	.51	9/16	.....	5/8	.....
* 1	SD-1232	3-1/4	.52	.....	3/4	.....	5/8
1-1/16	SD-1234	3-1/4	.63	5/8	3/4	.....	.....
* 1-1/8	SD-1236	3-1/4	.74	.....	7/8	.....	3/4

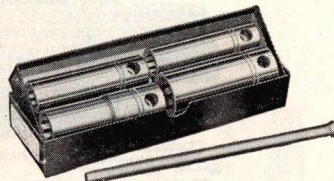
* Popular Spark Plug Sizes. SD-1226 services 14mm. Spark Plugs.
 † Not guaranteed because of extra thin walls. SD-1228T services 18mm. Spark Plugs.
 SD-1220 services AC No. 104, Champion Nos. Y-4A and Y-5, 10 mm. Plugs. SD-1230 services many buses and trucks.
 SD-1222 services AC No. 103-S, AC No. M-8, Champion No. Y-4 and Auto-Lite No. P-4, 10 mm. Spark Plugs. SD-1232 services 18mm. Spark Plugs on cars; also many buses and trucks.
 SD-1236 services many buses and trucks.

WILLIAMS' ♦♦"SUPERSOCKET" WRENCH SETS Selected Alloy Steel STANDARD PATTERN—1/2" SQUARE DRIVE



**SET No. S-8
With 7" Sliding Bar
In Cardboard Box
Weight, 2-3/8 lbs.
CONTENTS**

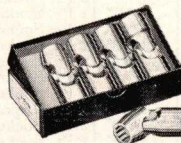
One Ea. No.	Description
SD-1218	9/16" 12 Pt. Deep Skt.
SD-1220	5/8" 12 Pt. Deep Skt.
SD-1222	11/16" 12 Pt. Deep Skt.
SD-1226	13/16" 12 Pt. Deep Skt.
SD-1228	7/8" 12 Pt. Deep Skt.
SD-1232	1" 12 Pt. Deep Skt.



**SET No. S-9
With 7" Sliding Bar
In Cardboard Box
Weight, 1-5/8 lbs.
CONTENTS**

One Ea. No.	Description
SD-1220	5/8" 12 Pt. Deep Skt.
SD-1222	11/16" 12 Pt. Deep Skt.
SD-1226	13/16" 12 Pt. Deep Skt.
SD-1232	1" 12 Pt. Deep Skt.

**SET No. S-11
Complete
in Cardboard Box
5 Pieces
Weight, 1-1/4 lbs.**



CONTENTS		CONTENTS	
One Ea. No.	Description	One Ea. No.	Description
SU-1216	1/2" 12 Pt. Univ. Skt.	SU-1222	11/16" 12 Pt. Univ. Skt.
SU-1218	9/16" 12 Pt. Univ. Skt.	SU-1224	3/4" 12 Pt. Univ. Skt.
SU-1220	5/8" 12 Pt. Univ. Skt.		

♦ REGISTERED TRADE MARK

WILLIAMS' ♦♦"SUPERSOCKET" WRENCH SETS Selected Alloy Steel STANDARD PATTERN—1/2" SQUARE DRIVE



**SET No. S-1
In Metal Case
12 Pieces
Weight, 4-3/4 lbs.
2 Color Steel Case—2-1/8 x 3 x 12-1/2"**

**SET No. S-2
In Metal Case
9 Pieces
Weight, 5-1/8 lbs.
Weight, 1-5/8 lbs.**

**SET No. S-3
In Metal Case
10 Pieces
Weight, 5-1/8 lbs.**

One Ea. No.	Description	One Ea. No.	Description
CONTENTS—SET No. S-1			
ST-1212	3/8" 12 Pt. Socket ...	ST-1222	11/16" 12 Pt. Socket ...
ST-1214	7/16" 12 Pt. Socket ...	ST-1224	3/4" 12 Pt. Socket ...
ST-1216	1/2" 12 Pt. Socket ...	ST-1225	25/32" 12 Pt. Socket ...
ST-1218	9/16" 12 Pt. Socket ...	ST-1228	7/8" 12 Pt. Socket ...
ST-1219	19/32" 12 Pt. Socket ...	ST-1232	1" 12 Pt. Socket ...
ST-1220	5/8" 12 Pt. Socket ...	S-51	Revers. Ratchet, 10-1/2"

CONTENTS—SET No. S-2			
ST-1216	1/2" 12 Pt. Socket ...	ST-1231	31/32" 12 Pt. Socket ...
ST-1219	19/32" 12 Pt. Socket ...	ST-1234	1- 1/16" 12 Pt. Socket ...
ST-1222	11/16" 12 Pt. Socket ...	ST-1240	1- 1/4" 12 Pt. Socket ...
ST-1225	25/32" 12 Pt. Socket ...	S-51	Revers. Ratchet, 10-1/2"
ST-1228	7/8" 12 Pt. Socket ...		

CONTENTS—SET No. S-3			
ST-1214	7/16" 12 Pt. Socket ...	ST-1228	7/8" 12 Pt. Socket ...
ST-1216	1/2" 12 Pt. Socket ...	ST-1230	15/16" 12 Pt. Socket ...
ST-1218	9/16" 12 Pt. Socket ...	ST-1234	1-1/16" 12 Pt. Socket ...
ST-1220	5/8" 12 Pt. Socket ...	ST-1240	1-1/4" 12 Pt. Socket ...
ST-1224	3/4" 12 Pt. Socket ...	S-51	Revers. Ratchet, 10-1/2"

**SET No. S-4
Complete
in Metal Case
20 Pieces
19 Sockets and
1 Attachment
Total Weight,
8-1/8 lbs.
2 Color
Steel Case Only
2-1/8 x 3-3/4 x 12"
Weight, 1-7/8 lbs**



One Ea. No.	Description	One Ea. No.	Description
ST-1212	3/8" 12 Pt. Socket ...	ST-1226	13/16" 12 Pt. Socket ...
ST-1214	7/16" 12 Pt. Socket ...	ST-1228	7/8" 12 Pt. Socket ...
ST-1216	1/2" 12 Pt. Socket ...	ST-1230	15/16" 12 Pt. Socket ...
ST-1218	9/16" 12 Pt. Socket ...	ST-1231	31/32" 12 Pt. Socket ...
ST-1219	19/32" 12 Pt. Socket ...	ST-1232	1" 12 Pt. Socket ...
ST-1220	5/8" 12 Pt. Socket ...	ST-1234	1-1/16" 12 Pt. Socket ...
ST-1221	21/32" 12 Pt. Socket ...	ST-1236	1-1/8" 12 Pt. Socket ...
ST-1222	11/16" 12 Pt. Socket ...	ST-1238	1-3/16" 12 Pt. Socket ...
ST-1224	3/4" 12 Pt. Socket ...	ST-1240	1-1/4" 12 Pt. Socket ...
ST-1225	25/32" 12 Pt. Socket ...	S-51	Revers. Ratchet, 10-1/2"

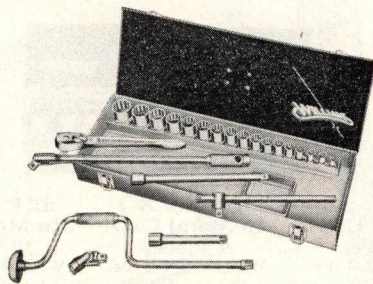
**SET No. S-12
Complete in Cardboard Box
15 Pieces
Weight, 2-3/4 lbs.**



One Ea. No.	Description
ST-612	3/8" 6 Pt. Socket ...
ST-614	7/16" 6 Pt. Socket ...
ST-616	1/2" 6 Pt. Socket ...
ST-618	9/16" 6 Pt. Socket ...
*SF-618	9/16" 6 Pt. Socket ...
ST-619	19/32" 6 Pt. Socket ...
ST-620	5/8" 6 Pt. Socket ...
ST-621	21/32" 6 Pt. Socket ...
ST-622	11/16" 6 Pt. Socket ...
ST-624	3/4" 6 Pt. Socket ...
ST-625	25/32" 6 Pt. Socket ...
ST-626	13/16" 6 Pt. Socket ...
ST-628	7/8" 6 Pt. Socket ...
ST-630	15/16" 6 Pt. Socket ...
ST-632	1" 6 Pt. Socket ...

* All Ford 6, Ford-Mercury V-8, 85 HP, 90 HP and 100 HP Connecting Rods. Use with Torque wrench required on models having "Marsden" self-locking nuts. Not guaranteed because of extra thin walls.

WILLIAMS'
♦“SUPERSOCKET” WRENCH SETS
 Selected Alloy Steel
 STANDARD PATTERN—1/2" Square Drive

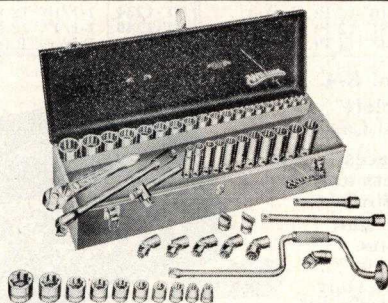


SET No. S-5
 Complete in Metal Case
 24 Pieces—17 Sockets and 7 Attachments
 Total Weight, 18 lbs.

2 Color Steel Case Only—2-1/4 x 7-1/2 x 20-3/4"—Weight, 6 lbs.

CONTENTS

One Ea. No.	Description	One Ea. No.	Description
ST-1212	3/8" 12 Pt. Socket	ST-1231	31/32" 12 Pt. Socket
ST-1214	7/16" 12 Pt. Socket	ST-1232	1" 12 Pt. Socket
ST-1216	1/2" 12 Pt. Socket	ST-1234	1-1/16" 12 Pt. Socket
ST-1218	9/16" 12 Pt. Socket	ST-1236	1-1/8" 12 Pt. Socket
ST-1219	19/32" 12 Pt. Socket	ST-1240	1-1/4" 12 Pt. Socket
ST-1220	5/8" 12 Pt. Socket	S-15	Speeder, Revol. Grips, 17-1/2"
ST-1222	11/16" 12 Pt. Socket	S-20A	Sliding T Handle, 11"
ST-1224	3/4" 12 Pt. Socket	S-41	Flex Handle, 17-1/4"
ST-1225	25/32" 12 Pt. Socket	S-51	Reversible Ratchet, 10-1/2"
ST-1226	13/16" 12 Pt. Socket	S-110 P	Extension Bar, 5-1/2"
ST-1228	7/8" 12 Pt. Socket	S-115 P	Extension Bar, 10-1/2"
ST-1230	15/16" 12 Pt. Socket	S-140	Universal Joint



SET No. S-7
 Complete in Metal Case
 44 Pieces
 35 Sockets and 9 Attachments
 Total Weight, 27 lbs.

2 Color Steel Case Only—5-3/8 x 7-1/2 x 23-1/4"—Weight, 8-5/8 lbs.

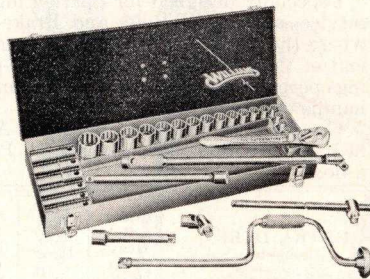
CONTENTS

One Ea. No.	Description	One Ea. No.	Description
*ST-810	5/16" 8 Pt. Socket	ST-1238	1-3/16" 12 Pt. Socket
*ST-812	3/8" 8 Pt. Socket	ST-1240	1-1/4" 12 Pt. Socket
*ST-814	7/16" 8 Pt. Socket	SD-1216	1/2" 12 Pt. Deep Socket
*ST-816	1/2" 8 Pt. Socket	SD-1218	9/16" 12 Pt. Deep Socket
*ST-818	9/16" 8 Pt. Socket	SD-1220	5/8" 12 Pt. Deep Socket
*ST-820	5/8" 8 Pt. Socket	SD-1222	11/16" 12 Pt. Deep Socket
*ST-822	11/16" 8 Pt. Socket	SD-1224	3/4" 12 Pt. Deep Socket
*ST-824	3/4" 8 Pt. Socket	SD-1226	13/16" 12 Pt. Deep Socket
*ST-828	7/8" 8 Pt. Socket	SD-1228	7/8" 12 Pt. Deep Socket
*ST-832	1" 8 Pt. Socket	SD-1230	15/16" 12 Pt. Deep Socket
ST-1212	3/8" 12 Pt. Socket	SD-1232	1" 12 Pt. Deep Socket
ST-1214	7/16" 12 Pt. Socket	SD-1234	1-1/16" 12 Pt. Deep Socket
ST-1216	1/2" 12 Pt. Socket	SD-1236	1-1/8" 12 Pt. Deep Socket
ST-1218	9/16" 12 Pt. Socket	SU-1216	1/2" 12 Pt. Univ. Socket
ST-1219	19/32" 12 Pt. Socket	SU-1218	9/16" 12 Pt. Univ. Socket
ST-1220	5/8" 12 Pt. Socket	SU-1220	5/8" 12 Pt. Univ. Socket
ST-1222	11/16" 12 Pt. Socket	SU-1222	11/16" 12 Pt. Univ. Socket
ST-1224	3/4" 12 Pt. Socket	SU-1224	3/4" 12 Pt. Univ. Socket
ST-1225	25/32" 12 Pt. Socket	S-15	Speeder, Revol. Grips, 17-1/2"
ST-1226	13/16" 12 Pt. Socket	S-20A	Sliding T Handle, 11"
ST-1228	7/8" 12 Pt. Socket	S-41	Flex Handle, 17-1/4"
ST-1230	15/16" 12 Pt. Socket	S-51	Reversible Ratchet, 10-1/2"
ST-1231	31/32" 12 Pt. Socket	S-110 P	Extension Bar, 5-1/2"
ST-1232	1" 12 Pt. Socket	S-115 P	Extension Bar, 10-1/2"
ST-1234	1-1/16" 12 Pt. Socket	SB-30	Drag Link Socket Bit
ST-1236	1-1/8" 12 Pt. Socket	SB-40	Drag Link Socket Bit

* Not included in Set No. S-7.

♦REGISTERED TRADE MARK

WILLIAMS'
♦“SUPERSOCKET” WRENCH SETS
 Selected Alloy Steel
 STANDARD PATTERN—1/2" Square Drive



SET No. S-6
 Complete in Metal Case
 30 Pieces—23 Sockets and 7 Attachments
 Total Weight, 20-1/4 lbs.

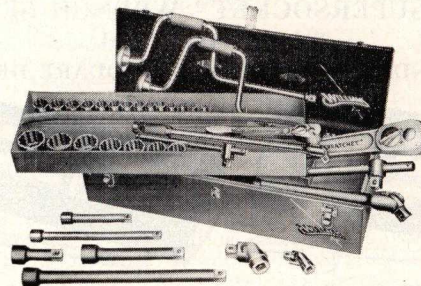
2 Color Steel Case Only

2-1/4 x 7-1/2 x 20-3/4"

Weight, 6 lbs.

CONTENTS

One Ea. No.	Description	One Ea. No.	Description
ST-1212	3/8" 12 Pt. Socket	ST-1236	1-1/8" 12 Pt. Socket
ST-1214	7/16" 12 Pt. Socket	ST-1240	1-1/4" 12 Pt. Socket
ST-1216	1/2" 12 Pt. Socket	SD-1218	9/16" 12 Pt. Deep Socket
ST-1218	9/16" 12 Pt. Socket	SD-1220	5/8" 12 Pt. Deep Socket
ST-1219	19/32" 12 Pt. Socket	SD-1222	11/16" 12 Pt. Deep Socket
ST-1220	5/8" 12 Pt. Socket	SD-1226	13/16" 12 Pt. Deep Socket
ST-1222	11/16" 12 Pt. Socket	SD-1228	7/8" 12 Pt. Deep Socket
ST-1224	3/4" 12 Pt. Socket	SD-1232	1" 12 Pt. Deep Socket
ST-1225	25/32" 12 Pt. Socket	S-15	Speeder, Revol. Grips, 17-1/2"
ST-1226	13/16" 12 Pt. Socket	S-20A	Sliding T Handle, 11"
ST-1228	7/8" 12 Pt. Socket	S-41	Flex Handle, 17-1/4"
ST-1230	15/16" 12 Pt. Socket	S-51	Reversible Ratchet, 10-1/2"
ST-1231	31/32" 12 Pt. Socket	S-110 P	Extension Bar, 5-1/2"
ST-1232	1" 12 Pt. Socket	S-115 P	Extension Bar, 10-1/2"
ST-1234	1-1/16" 12 Pt. Socket	S-140	Universal Joint



SET No. S-10
 Complete in Metal Case
 26 Pieces—21 Sockets and 15 Attachments
 Total Weight, 50 lbs.

2 Color Steel Case Only

6-3/4 x 7-1/2 x 23-1/4"

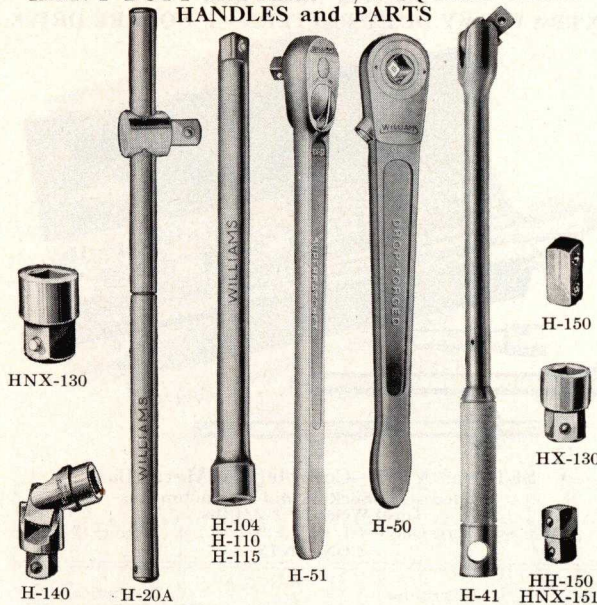
Weight, 12-3/8 lbs.

CONTENTS

One Ea. No.	Description	One Ea. No.	Description
ST-1212	3/8" 12 Pt. Socket	H-1246	1-7/16" 12 Pt. Socket
ST-1214	7/16" 12 Pt. Socket	H-1248	1-1/2" 12 Pt. Socket
ST-1216	1/2" 12 Pt. Socket	H-1252	1-5/8" 12 Pt. Socket
ST-1218	9/16" 12 Pt. Socket	S-10	Speeder, Revol. Grips, 12"
ST-1219	19/32" 12 Pt. Socket	S-15	Speeder, Revol. Grips, 17-1/2"
ST-1220	5/8" 12 Pt. Socket	S-20A	Sliding T Handle, 11"
ST-1222	11/16" 12 Pt. Socket	S-41	Flex Handle, 17-1/4"
ST-1224	3/4" 12 Pt. Socket	S-51	Reversible Ratchet, 10-1/2"
ST-1225	25/32" 12 Pt. Socket	S-110 P	Extension Bar, 5-1/2"
ST-1226	13/16" 12 Pt. Socket	S-115 P	Extension Bar, 10-1/2"
ST-1228	7/8" 12 Pt. Socket	S-140	Universal Joint
ST-1230	15/16" 12 Pt. Socket	H-20A	Sliding T Handle, 17-1/2"
ST-1231	31/32" 12 Pt. Socket	H-41	Flex Handle, 20"
ST-1232	1" 12 Pt. Socket	H-51	Reversible Ratchet, 19"
H-1234	1-1/16" 12 Pt. Socket	H-104	Extension Bar, 4"
H-1236	1-1/8" 12 Pt. Socket	H-110	Extension Bar, 8"
H-1240	1-1/4" 12 Pt. Socket	H-115	Extension Bar, 15-1/2"
H-1242	1-5/16" 12 Pt. Socket	H-140	Universal Joint

WILLIAMS' ♦ "SUPERSOCKET" WRENCHES

Selected Alloy Steel
HEAVY DUTY PATTERN—3/4" SQUARE DRIVE
HANDLES and PARTS



No.	PIECE	Weight Ea., Lbs.
H-20A	Sliding T Handle—17-1/2" long.	2.7
H-41	Flex Handle—20" long; flexible head, knurled grip and cross hole for Sliding Bar.	4.6
H-41B	Sliding Bar, 3/4" x 16" for H-41 and NX-41.	2.
H-50	Ratchet—18-1/2" long; complete with Plug-Connector for H-150.	5.3
H-51	Reversible Ratchet—19" long, 24 teeth in Ratchet gear instead of usual 16. Shift lever reverses action instantly.	5.4
H-104	Extension Bar—4" long.	.88
H-110	Extension Bar—8" long.	1.5
H-115	Extension Bar—15-1/2" long.	2.8
HNX-130	Adapter, 3/4" square female and 1" square male.	1.7
HX-130	Adapter, 3/4" square female and 1" hex male.	.59
H-140	Universal Joint—Spring tension maintains operating angle desired—range approx. 140°.	1.2
H-150	Ratchet Plug-Connector.	.27
HH-150	Plug-Adapter, 5/8" and 3/4" square male.	2
HNX-151	Adapter, 3/4" square male and 1" square male.	.44

SOCKETS

Williams Heavy Duty Sockets are designed for harder service where more strength is required than on the every-day job. Will rotate nuts completely where handle can be swung only 30°.

Made from Selected Alloy Steel heat-treated, and chrome-plated. Regular sockets packed 2 in a box. Extra Deep packed 3 in a box.



Regular
12-Pt.



Extra Deep
12-Pt.

Size Opening	Regular		*Extra Deep		Amer. Std. Heavy Nut (USS)	Amer. Std. Hx. Hd. Cap Screw	Amer. Std. Light Nut (SAE)	Amer. Std. Reglr. Nut
	No.	Wgt. Each, Lbs.	No.	Wgt. Each, Lbs.				
7/8	H-1228	.41			1/2	5/8	9/16	9/16
15/16	H-1230	.41	HD-1230	.75	9/16		5/8	
31/32	H-1231	.43						
1 1/16	H-1232	.50				3/4		5/8
1 1/8	H-1234	.51	HD-1234	.9	5/8	7/8	3/4	
1 1/4	H-1236	.58						3/4
1 3/16	H-1238	.69						
1 1/2	H-1240	.67	HD-1240	1.2	3/4		7/8	
1 5/16	H-1242	.78				1		7/8
1 3/8	H-1244	.78						
1 7/16	H-1246	.88	HD-1246	1.6	7/8			
1 1/2	H-1248	1.					1	
1 5/8	H-1252	1.			1-1/8		1-1/8	1
1 11/16	H-1254	1.3				1-1/4		1-1/8
1 3/4	H-1256	1.3						
1 13/16	H-1258	1.9			1-1/8		1-1/4	
1 7/8	H-1260	1.9						1-1/4
2	H-1262	2.1			1-1/4		1-3/8	
2 1/16	H-1266	2.5						1-3/8
2 1/8	H-1268	2.6						
2 3/16	H-1270	2.6			1-3/8		1-1/2	
2 1/4	H-1272	2.5						1-1/2

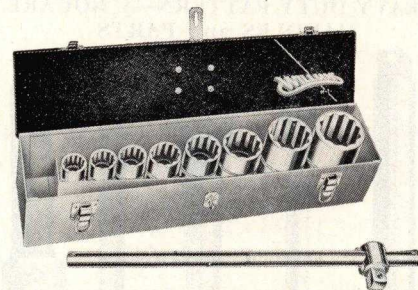
♦ REGISTERED TRADE MARK

* 3-1/4" to 3-1/2" long.

See page 68 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.

♦ "SUPERSOCKET" WRENCH SETS

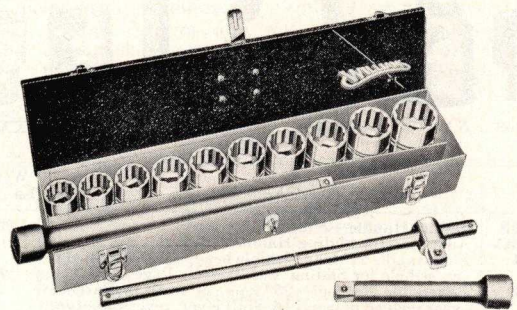
Selected Alloy Steel
HEAVY DUTY PATTERN—3/4" SQUARE DRIVE



SET No. H-1—Complete in Metal Case
9 Pieces—8 Sockets and 1 Attachment
Total Weight, 14-7/8 lbs.

2 Color Steel Case Only—5-3/8 x 4 x 18" — Weight, 4-1/2 lbs.

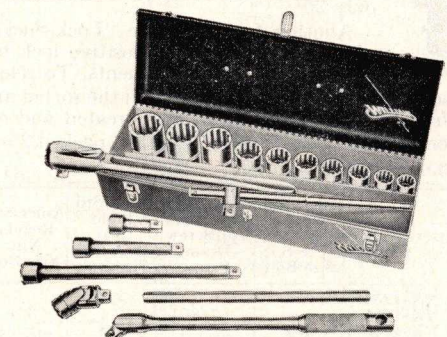
One Ea. No.	Description	One Ea. No.	Description
H-1228	7/8" 12 Pt. Socket	H-1252	1- 5/8" 12 Pt. Socket
H-1231	31/32" 12 Pt. Socket	H-1258	1-13/16" 12 Pt. Socket
H-1234	1-1/16" 12 Pt. Socket	H-1264	2" 12 Pt. Socket
H-1240	1-1/4" 12 Pt. Socket	H-20A	Sliding T Handle, 17-1/2"
H-1246	1-7/16" 12 Pt. Socket		



SET No. H-2—Complete in Metal Case
13 Pieces—10 Sockets and 3 Attachments
Total Weight, 20-3/4 lbs.

2 Color Steel Case Only—2-3/4 x 4-1/2 x 19-3/4" — Weight, 4-3/4 lbs.

One Ea. No.	Description	One Ea. No.	Description
H-1234	1-1/16" 12 Pt. Socket	H-1248	1-1/2" 12 Pt. Socket
H-1236	1-1/8" 12 Pt. Socket	H-1252	1-5/8" 12 Pt. Socket
H-1238	1-3/16" 12 Pt. Socket	H-1256	1-3/4" 12 Pt. Socket
H-1240	1-1/4" 12 Pt. Socket	H-20A	Sliding T Handle, 17-1/2"
H-1242	1-5/16" 12 Pt. Socket	H-110	Extension Bar, 8"
H-1244	1-3/8" 12 Pt. Socket	H-115	Extension Bar, 15-1/2"
H-1246	1-7/16" 12 Pt. Socket		



SET No. H-3—Complete in Metal Case
18 Pieces—10 Sockets and 8 Attachments
Total Weight, 41-1/8 lbs.

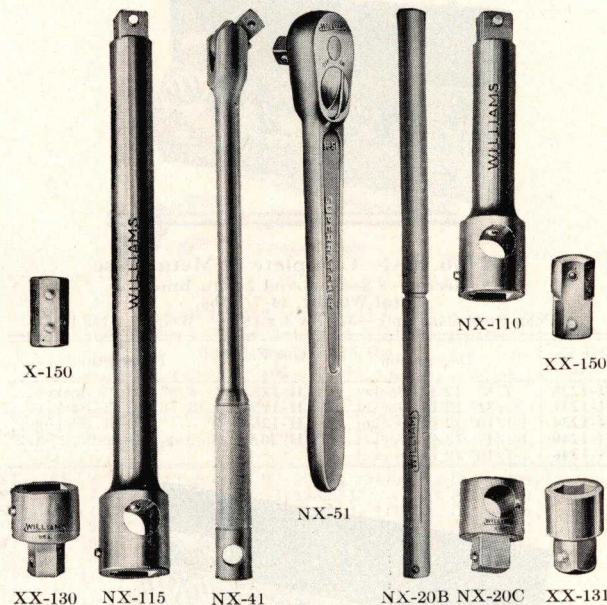
2 Color Steel Case Only—5-3/8 x 7-1/2 x 23-1/4" — Weight, 7-1/2 lbs.

One Ea. No.	Description	One Ea. No.	Description
H-1234	1- 1/16" 12 Pt. Socket	H-1264	2" 12 Pt. Socket
H-1236	1- 1/8" 12 Pt. Socket	H-20A	Sliding T Handle, 17-1/2"
H-1240	1- 1/4" 12 Pt. Socket	H-41	Flex Handle, 20"
H-1242	1- 5/16" 12 Pt. Socket	H-41B	Sliding Bar for H-41
H-1246	1- 7/16" 12 Pt. Socket	H-51	Reversible Ratchet, 19"
H-1248	1- 1/2" 12 Pt. Socket	H-104	Extension Bar, 4"
H-1252	1- 5/8" 12 Pt. Socket	H-110	Extension Bar, 8"
H-1258	1-13/16" 12 Pt. Socket	H-115	Extension Bar, 15-1/2"
H-1260	1- 7/8" 12 Pt. Socket	H-140	Universal Joint

WILLIAMS' "SUPERSOCKET" WRENCHES

Selected Alloy Steel

EXTRA HEAVY DUTY PATTERN—1" SQUARE DRIVE HANDLES AND PARTS



No.	PIECE	Weight Ea., Lbs.
NX-20B	Sliding Handle—1" diam., 20" long.	4.4
NX-20C	Adapter—for Sliding Handle NX-20B.	1.4
NX-41	Flex Handle 27" long; flexible head, knurled grip and cross-hole for Sliding Bar H-41B, Page 31.	9.3
NX-51	Reversible Ratchet—25" long, 24 teeth in Ratchet gear instead of usual 16. Shift lever reverses action instantly.	11.5
NX-110	Extension Bar—9" long.	3.7
NX-115	Extension Bar—18" long.	7.1
X-150	Ratchet Plug-Connector—1" hex.	.54
XX-130	Adapter—1" square Female and 1" hex Male.	1.2
XX-131	Adapter—1" hex Female and 1" square Male.	.93
XX-150	Adapter—1" square Male and 1" hex Male.	.53

SOCKETS



12-Pt.

In addition to the 1" square drive opening in their base, these sockets are cross-drilled to receive the Sliding Handle. Will rotate nuts completely where the handle can be swung only 30°.

Another feature is the "Lock-Socket" device which provides a positive lock between the sockets and attachments. To release the "Lock-Socket" simply press the button on the socket and pull. Made from Selected Alloy Steel, heat-treated and chrome-plated. Sockets Nos. NX-1234 to NX-1248 packed 2 in a box. All others, 1 in a box.

Nominal Opening	No.	Amer. Std. Heavy Nut (U.S.S.); Size Bolt	Amer. Std. Hex Head Cap Screw; Diam. Screw	Amer. Std. Light Nut (S.A.E.); Size Bolt	Amer. Std. Regular Nut; Size Bolt	Wgt. Each, Lbs.
1 1/16	NX-1234	5/8		3/4		1.1
1 1/8	NX-1236		7/8		3/4	1.2
1 1/4	NX-1240	3/4		7/8		1.2
1 3/8	NX-1244					1.3
1 7/16	NX-1246	7/8		1		1.3
1 1/2	NX-1248		1-1/8		1	1.4
1 5/8	NX-1252	1		1-1/8		1.9
1 13/16	NX-1258	1-1/8		1-1/4		2.1
1 7/8	NX-1260				1-1/4	2.3
2	NX-1264	1-1/4		1-3/8		2.4
2 1/8	NX-1268					3.
2 3/16	NX-1270	1-3/8		1-1/2		3.3
2 1/4	NX-1272				1-1/2	3.6
2 3/8	NX-1276	1-1/2				3.2
2 1/2	NX-1280					6.3
2 9/16	NX-1282	1-5/8				6.3
2 5/8	NX-1284				1-3/4	6.7
2 3/4	NX-1288	1-3/4				7.2
2 15/16	NX-1294	1-7/8				8.3
3 1/8	NX-12100	2				

† These Sockets have short neck, no cross-hole.

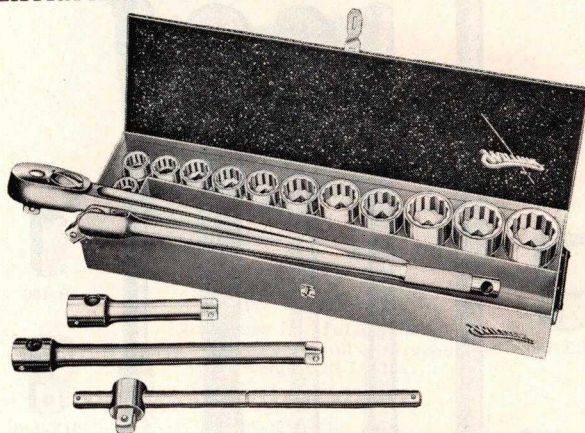
♦ REGISTERED TRADE MARK

WILLIAMS'

♦ "SUPERSOCKET" WRENCH SETS

Selected Alloy Steel

EXTRA HEAVY DUTY PATTERN—1" SQUARE DRIVE



SET No. NX-1—Complete in Metal Case

18 Pieces—12 Sockets and 6 Attachments

Total Weight, 78-3/4 lbs.

2 Color Steel Case Only—4-1/4 x 8 x 29-1/4" — Weight, 17 lbs.

CONTENTS

One Ea. No.	Description	One Ea. No.	Description
NX-1234	1- 1/16" 12 Pt. Socket	NX-1270	2-3/16" 12 Pt. Socket....
NX-1236	1- 1/8" 12 Pt. Socket	NX-1272	2-1/4" 12 Pt. Socket....
NX-1240	1- 1/4" 12 Pt. Socket	NX-1276	2-3/8" 12 Pt. Socket....
NX-1246	1- 7/16" 12 Pt. Socket	NX-20B	Sliding Handle, 1" x 20"
NX-1248	1- 1/2" 12 Pt. Socket	NX-20C	Adapter for NX-20B
NX-1252	1- 5/8" 12 Pt. Socket	NX-41	Flex Handle, 27"
NX-1258	1-13/16" 12 Pt. Socket	NX-51	Reversible Ratchet, 25"
NX-1260	1- 7/8" 12 Pt. Socket	NX-110	Extension Bar, 9"
NX-1264	2" 12 Pt. Socket	NX-115	Extension Bar, 18"

SET No. NX-2

Complete in Metal Case

10 Pieces

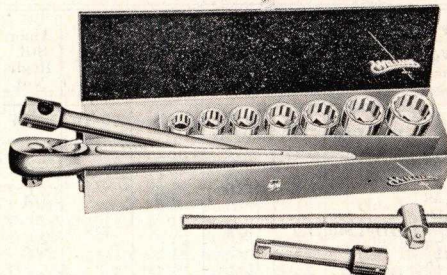
7 Sockets and 3 Attachments

Total Weight, 35-1/8 lbs.

2 Color Steel Case Only
4-1/4x5-1/4x20-3/4"
Weight, 10-1/8 lbs.

CONTENTS

One Ea. No.	Description	One Ea. No.	Description
NX-1240	1- 1/4" 12 Pt. Socket	NX-1270	2-3/16" 12 Pt. Socket....
NX-1246	1- 7/16" 12 Pt. Socket	NX-1276	2-3/8" 12 Pt. Socket....
NX-1252	1- 5/8" 12 Pt. Socket	NX-20B	Sliding Handle, 1" x 20"
NX-1258	1-13/16" 12 Pt. Socket	NX-20C	Adapter for NX-20B
NX-1264	2" 12 Pt. Socket	NX-110	Extension Bar, 9"



SET No. NX-3

Complete in Metal Case

12 Pieces

7 Sockets and 5 Attachments

Total Weight, 57-1/4 lbs.

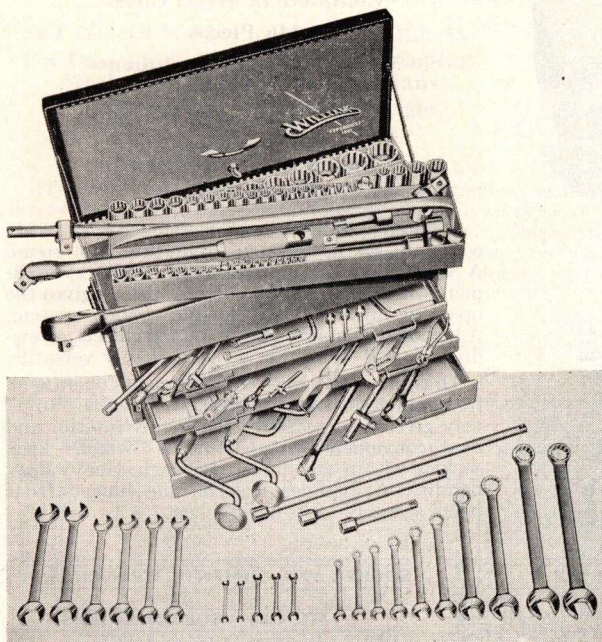
2 Color Steel Case Only
4-1/4x6-1/2x26"
Weight, 13-1/2 lbs.

CONTENTS

One Ea. No.	Description	One Ea. No.	Description
NX-1240	1- 1/4" 12 Pt. Socket	NX-1276	2-3/8" 12 Pt. Socket....
NX-1246	1- 7/16" 12 Pt. Socket	NX-20B	Sliding Handle, 1" x 20"
NX-1252	1- 5/8" 12 Pt. Socket	NX-20C	Adapter for NX-20B
NX-1258	1-13/16" 12 Pt. Socket	NX-51	Reversible Ratchet, 25"
NX-1264	2" 12 Pt. Socket	NX-110	Extension Bar, 9"
NX-1270	2- 3/16" 12 Pt. Socket	NX-115	Extension Bar, 18"

WILLIAMS' "SUPERCHEST" No. 1001

Selected Alloy Steel



Complete in Metal Chest

100 Pieces

44 Sockets, 32 Attachments and 24 Wrenches, etc.

Total Weight, 90-1/2 lbs.

2 Color Steel Chest Only
10-1/4 x 12 x 23-1/2"

Weight, 36 lbs.

The Williams 1001 "SupercHEST" provides a scientifically matched assortment of wrenches in numerous patterns and detachable sockets with accessories in 1/4, 3/8, 1/2 and 3/4" drives that will meet every conceivable nut turning problem of the Machinist or Master Mechanic.

This smartly designed "SupercHEST" is constructed of heavy gauge steel adequately reinforced and welded. It is built to last a lifetime.

Drawers with handy compartments operate on free acting suspension slides. Removable "tote" tray gives easy access to the roomy interior and has convenient compartments which keep sockets at proper height within easy finger-tip reach. Heavy duty handles provide for transportation. A cylinder lock on the hinged front panel securely locks entire chest.

CONTENTS

"SUPERSOCKETS"

Nominal Opening	No.	Amer. Std. Heavy Nut (USS)	Amer. Std. Hex Head Cap Screw	Amer. Std. Light Nut (SAE)	Amer. Std. Regl. Nut
MIDGET PATTERN 1/4" Square Drive REGULAR 6-POINT					
3/16	NM-606	.....	.....	.....	*2 & 3
7/32	NM-607	.....	.....	.....	.....
1/4	NM-608	.....	.....	.....	*4
9/32	NM-609	.....	.....	.....	.....

REGULAR 12-POINT

5/16	NM-1210	1/8	1/8	.....	*5 & 6
11/32	NM-1211	.....	.....	.....	*8
3/8	NM-1212	.....	3/16	.....	*10
7/16	NM-1214	.....	1/4	1/4	*12 & 1/4
1/2	NM-1216	1/4	5/16	5/16	.....

BANTAM PATTERN
3/8" Square Drive
REGULAR 12-POINT

3/8	B-1212	3/16	*10
7/16	B-1214	.....	1/4	1/4	1/4
1/2	B-1216	1/4	5/16	5/16	.....
9/16	B-1218	.....	3/8	3/8	5/16
5/8	B-1220	7/16	7/16	3/8
11/16	B-1222	3/8
3/4	B-1224	1/2	1/2	7/16

EXTRA DEEP 12-POINT

13/16	BD-1226	9/16	1/2
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STANDARD PATTERN
1/2" Square Drive
REGULAR 12-POINT

3/8	ST-1212	3/16
7/16	ST-1214	1/4	1/4	1/4
1/2	ST-1216	1/4	5/16	5/16	.....
9/16	ST-1218	.....	3/8	3/8	5/16
5/8	ST-1220	.....	7/16	7/16	3/8
11/16	ST-1222	3/8	.....	.....	.....
3/4	ST-1224	.....	1/2	1/2	7/16
25/32	ST-1225	7/16	.....	.....	.....
13/16	ST-1226	.....	9/16	.....	1/2
7/8	ST-1228	1/2	5/8	9/16	9/16
15/16	ST-1230	9/16	.....	5/8	.....
31/32	ST-1231	.....	.....	.....	.....
1	ST-1232	3/4	.....	5/8	.....

* Machine Screw Nut.

"SUPERSOCKETS"

Nominal Opening	No.	Amer. Std. Heavy Nut (USS)	Amer. Std. Hex Head Cap Screw	Amer. Std. Light Nut (SAE)	Amer. Std. Regl. Nut
EXTRA DEEP 12-POINT					
11/16	SD-1222	3/8	.....	.....	.....
13/16	SD-1226	.....	9/16	.....	1/2
7/8	SD-1228T	.....	.....	.....	.....
1	SD-1232	.....	3/4	.....	5/8
DRAG LINK SOCKET BITS					
15/16	SB-30	Size Blade—7/64 x 15/16"			
1-1/4	SB-40	Size Blade—3/32 x 1-1/4"			

HEAVY DUTY PATTERN
3/4" Square Drive
REGULAR 12-POINT

1-1/16	H-1234	5/8	.....	3/4	.....
1-1/8	H-1236	.....	7/8	.....	3/4
1-1/4	H-1240	3/4	.....	7/8	.....
1-5/16	H-1242	.....	1	.....	7/8
1-7/16	H-1246	7/8	.....	1	.....
1-1/2	H-1248	.....	1-1/8	.....	1
1-5/8	H-1252	1	.....	1-1/8	.....

SOCKET ATTACHMENTS,
WRENCHES, PLIERS

No.	Piece
MIDGET PATTERN 1/4" Square Drive	
NM-20A	Sliding T Handle—4-1/2" long.....
NM-51	REVERSIBLE Ratchet—4-1/2" long.....
NM-106	Extension Driver—6" long.....

BANTAM PATTERN
3/8" Square Drive

B-15	Speeder—16-1/2" long, revolving Grip
B-20A	Sliding T Handle—6-1/2" long.....
B-40	Flex Handle—8" long; flexible head.....
B-51	REVERSIBLE Ratchet—6-1/2" long.....
B-108	Extension Bar—3" long.....
B-110	Extension Bar—5-3/4" long.....
B-115	Extension Bar—10-1/2" long.....
B-140	Universal Joint.....
BP-2	Phillips Screw Driver Attachment.....
BP-3	Phillips Screw Driver Attachment.....
BP-4	Phillips Screw Driver Attachment.....

SOCKET ATTACHMENTS,
WRENCHES, PLIERS

No.	Piece
STANDARD PATTERN 1/2" Square Drive	
S-10	Speeder—12" long, revolving Grips...
S-15	Speeder—17-1/2" long, revolving Grip
S-20A	Sliding T Handle—11" long.....
S-41	Flex Handle—17" flexible head.....
S-51	REVERSIBLE Ratchet, 10-1/2" long
S-110P	Extension Bar—5-1/2" long.....
S-115P	Extension Bar—10-1/2" long.....
S-121P	Extension Bar—20" long.....
S-140	Universal Joint.....

HEAVY DUTY PATTERN
3/4" Square Drive

H-20A	Sliding T Handle—17-1/2" long.....
H-41	Flex Handle—20" long; flexible head.....
H-51	REVERSIBLE Ratchet—19" long.....
H-104	Extension Bar—4" long.....
H-110	Extension Bar—8" long.....
H-115	Extension Bar—15-1/2" long.....
H-140	Universal Joint.....

LONG THIN "SUPERRENCHES"

1090D	Openings 1/2" & 9/16"—8" long....
1090D	
1092F	Openings 5/8" & 11/16"—8" long....
1092F	
1094	Openings 3/4" & 7/8"—9" long....
1094	

MIDGET "SUPERRENCHES"

1106	Openings 13/64 & 7/32"—3" long....
1107	" 15/64 & 1/4"—3" long....
1108	" 9/32 & 11/32"—3-1/2" long....
1108A	" 1/4 & 5/16"—3-1/2" long....
1109	" 5/16 & 3/8"—3-1/2" long....

OPEN END-BOX "SUPERRENCHES"

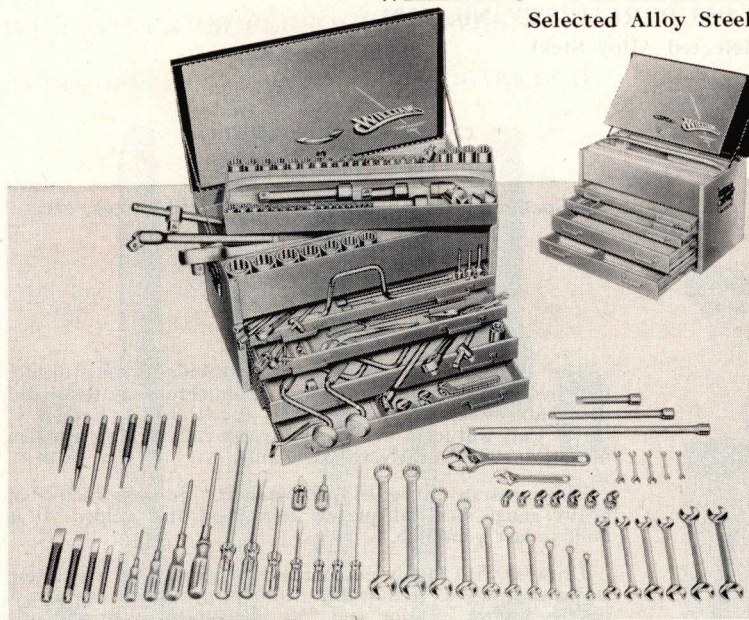
1159	Openings 5/16 & 5/16"—4-3/8" long
1160	" 3/8 & 3/8"—5" long....
1161	" 7/16 & 7/16"—5-3/8" long....
1162	" 1/2 & 1/2"—6" long....
1163	" 9/16 & 9/16"—6-3/4" long....
1164	" 5/8 & 5/8"—7-5/8" long....
1166	" 3/4 & 3/4"—9-1/2" long....
1167	" 7/8 & 7/8"—10-1/2" long....
1168	" 15/16 & 15/16"—13" long....
1170	" 1 & 1"—13" long....

"SUPERPLIERS"

1517	Pliers, 13" for brake-shoe springs...
1519	Midget, 4-1/2"; 4-position slip-joint...
1520	Standard, 9-1/2"; 8-position slip-joint...

WILLIAMS' "SUPERCHEST" No. 2001

Selected Alloy Steel



Complete in Metal Chest

146 Pieces

51 Sockets, 37 Attachments
and 58 Wrenches, etc.

Total Weight, 118-1/2 lbs.

2 Color Steel Chest Only
12-5/8 x 15-1/8 x 23-1/2"

Weight, 51 lbs.

Williams 2001 "SupercHEST" is a superbly complete set of tools—a miniature tool room. A wide range of "Supersockets" with Attachments in 1/4, 3/8, 1/2 and 3/4" drives gives the operator an extremely flexible wrench system. Additional "Superwrenches," pliers, chisels, screwdrivers, etc. make this set remarkably versatile.

Drawers with handy compartments operate on free acting suspension slides. Removable "tote" tray gives easy access to the roomy interior and has convenient compartments which keep sockets within easy finger-tip reach. Heavy duty handles. A cylinder lock on the hinged front panel securely locks entire chest.

"SUPERSOCKETS"

Nominal Opening	No.	U.S. Std. Nut	Hex Cap Screw	S.A.E. Std. Nut	Amer. Std. Regl. Nut
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MIDGET PATTERN—1/4" Square Drive
REGULAR 6-POINT

3/16	NM-606				*2 & 3
7/32	NM-607				
1/4	NM-608				*4
9/32	NM-609				

REGULAR 12-POINT

5/16	NM-1210	1/8	1/8		*5 & 6
11/32	NM-1211				*8
3/8	NM-1212		3/16		*10
7/16	NM-1214		1/4	1/4	*12 & 14
1/2	NM-1216	1/4	5/16	5/16	

BANTAM PATTERN—3/8" Square Drive
REGULAR 12-POINT

3/8	B-1212		3/16		*10
7/16	B-1214		1/4	1/4	
1/2	B-1216	1/4	5/16	5/16	
9/16	B-1218		3/8	3/8	5/16
5/8	B-1220		7/16	7/16	3/8
11/16	B-1222	3/8			
3/4	B-1224		1/2	1/2	7/16
13/16	BD-1226		9/16		1/2

UNIVERSAL 12-POINT

3/8	BU-1212		3/16		*10
7/16	BU-1214		1/4	1/4	*12 & 14
1/2	BU-1216	1/4	5/16	5/16	
9/16	BU-1218		3/8	3/8	5/16
5/8	BU-1220		7/16	7/16	3/8
11/16	BU-1222	3/8			
3/4	BU-1224		1/2	1/2	7/16

STANDARD PATTERN—1/2" Square Drive
REGULAR 12-POINT

3/8	ST-1212		3/16		
7/16	ST-1214		1/4	1/4	1/4
1/2	ST-1216	1/4	5/16	5/16	
9/16	ST-1218		3/8	3/8	5/16
19/32	ST-1219	5/16			
5/8	ST-1220		7/16	7/16	3/8
21/32	ST-1221				
11/16	ST-1222	3/8			
3/4	ST-1224		1/2	1/2	7/16
25/32	ST-1225	7/16			
13/16	ST-1226		9/16		1/2
7/8	ST-1228	1/2	5/8	9/16	9/16
15/16	ST-1230	9/16		5/8	
31/32	ST-1231				
1	ST-1232		3/4		5/8

EXTRA DEEP 12-POINT

11/16	SD-1222	3/8			
13/16	SD-1226		9/16		1/2
7/8	SD-1228T				
1	SD-1232		3/4		5/8

DRAG LINK SOCKET BITS

15/16	SB-30	Size Blade—7/64 x 15/16"
1-1/4	SB-40	Size Blade—3/32 x 1-1/4"

* Machine Screw Nut.

† Extra Deep Socket.

"SUPERSOCKETS"

Nominal Opening	No.	U.S. Std. Nut	Hex Cap Screw	S.A.E. Std. Nut	Amer. Std. Regl. Nut
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HEAVY DUTY PATTERN—3/4" Square Drive
REGULAR 12-POINT

1-1/16	H-1234	5/8		3/4	
1-1/8	H-1236		7/8		3/4
1-1/4	H-1240	3/4		7/8	
1-5/16	H-1242		1		7/8
1-7/16	H-1246	7/8		1	
1-1/2	H-1248		1-1/8		1
1-5/8	H-1252	1		1-1/8	

SOCKET ATTACHMENTS, WRENCHES, Etc.

No.	Piece
-----	-------

MIDGET PATTERN—1/4" Square Drive

NM-20A	Sliding T Handle—4-1/2" long
NM-51	REVERSIBLE Ratchet, 4-1/2" long
NM-106	Extension Driver—6" long
NMP-1	Phillips Screw Driver Attachment
NMP-2	Phillips Screw Driver Attachment

BANTAM PATTERN—3/8" Square Drive

B-15	Speeder—16-1/2" long, revol. Grip
B-20A	Sliding T Handle—6-1/2" long
B-40	Flex Handle—8" long, flexible head
B-51	REVERSIBLE Ratchet, 6-1/2" long
B-108	Extension Bar—3" long
B-110	Extension Bar—5-3/4" long
B-115	Extension Bar—10-1/2" long
B-140	Universal Joint
BP-2	Phillips Screw Driver Attachment
BP-3	Phillips Screw Driver Attachment
BP-4	Phillips Screw Driver Attachment
BS-130	Adapter 3/8" sq. female; 1/2" sq. male

STANDARD PATTERN—1/2" Square Drive

S-10	Speeder—12" long, revolving Grips
S-15	Speeder—17-1/2" long, rev. Grips
S-20A	Sliding T Handle—11" long
S-41	Flex Handle—17" flexible head
S-51	REVERSIBLE Ratchet, 10-1/2" long
S-55	REVERSIBLE Ratchet Adapter
S-110P	Extension Bar—5-1/2" long
S-115P	Extension Bar—10-1/2" long
S-121P	Extension Bar—20" long
S-140	Universal Joint
SH-130	Adapter 1/2" sq. female; 3/4" sq. male

HEAVY DUTY PATTERN—3/4" Square Drive

H-20A	Sliding T Handle—17-1/2" long
H-41	Flex Handle—20" long, flexible head
H-51	REVERSIBLE Ratchet—19" long
H-104	Extension Bar—4" long
H-110	Extension Bar—8" long
H-115	Extension Bar—15-1/2" long
H-140	Universal Joint

LONG THIN "SUPERWRENCHES"

1090D	Openings 1/2" & 9/16"—8" long
1090D	
1092F	Openings 5/8" & 11/16"—8" long
1092F	
1094	Openings 3/4" & 7/8"—9" long
1094	

SOCKET ATTACHMENTS, WRENCHES, Etc.

No.	Piece
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MIDGET "SUPERWRENCHES"

1106	Openings 13/64" & 7/32"
1107	" 15/64" & 1/4"
1108	" 9/32" & 11/32"
1108A	" 1/4" & 5/16"
1109	" 5/16" & 3/8"

OPEN END-BOX "SUPERWRENCHES"

1159	Openings 5/16" & 5/16"—4-3/8" long
1160	" 3/8" & 3/8"—5" long
1161	" 7/16" & 7/16"—5-3/8" long
1162	" 1/2" & 1/2"—6" long
1163	" 9/16" & 9/16"—6-3/4" long
1164	" 5/8" & 5/8"—7-5/8" long
1166	" 3/4" & 3/4"—9-1/2" long
1167	" 7/8" & 7/8"—10-1/2" long
1168	" 15/16" & 15/16"—13" long
1170	" 1" & 1"—13" long

ADJUSTABLE HOOK SPANNERS

1471	Capacity for Circles, 3/4 to 2"
1472	" " 1-1/4 to 3"
1474	" " 2 to 4-3/4"

"SUPERJUSTABLES"

6"	Capacity—3/4"
12"	Capacity—1-5/16"

SPECIAL "SUPERWRENCH"

1998B	For Star Nut, etc.—Bendix Hydraulic
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"SUPERPLIERS," ETC.

76	Needle Nose Side Cutting Pliers—6"
1517	Pliers, 13", for brake-shoe springs
1519	Midget, 4-1/2"; 4-position slip-joint
1520	Standard, 9-1/2"; 8-position slip-joint

REGULAR SCREW DRIVERS

4	Square Blade—length 4"
6	Square Blade—length 6"
8	Square Blade—length 8"
12	Square Blade—length 12"
43	Round Blade—length 3"
46	Round Blade—length 6"
50	Round Blade—length 10"
62	Regular Stubby—blade length, 1-1/2"

PHILLIPS SCREW DRIVERS

WP-1	Fits Screws No. 4 and smaller
WP-2	Fits Screws No. 5 to 9 inclusive
WP-3	Fits Screws No. 10 to 16 inclusive
WP-4	Fits Screws No. 18 and larger
WP-62	Stubby, Fits Screws No. 5 to 9 incl.

PUNCHES

P-4	Pin Punch—6" long—1/8" point
P-6	Pin Punch—6" long—3/16" point
P-8	Pin Punch—8" long—1/4" point
P-13	Solid Punch—6" long—3/32" point
P-14	Solid Punch—8" long—1/8" point
P-25	Long Taper Punch—9"; 5/32" point
P-26	Long Taper Punch—10"; 3/16" point
P-30	Prick Punch—5" long
P-40	Center Punch—5" long

CHISELS

C-8	Width of Cut—1/4"—4-3/4" long
C-12	" " 3/8"—5-1/2" long
C-16	" " 1/2"—6" long
C-20	" " 5/8"—6-1/2" long
C-24	" " 3/4"—7" long

WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS

Selected Alloy Steel

FOR DIESEL ENGINE SERVICE

SET No. DLM-52

For Diesel Engine
MechanicsTotal Weight,
35-5/8 lbs.

SET No. DLE-53

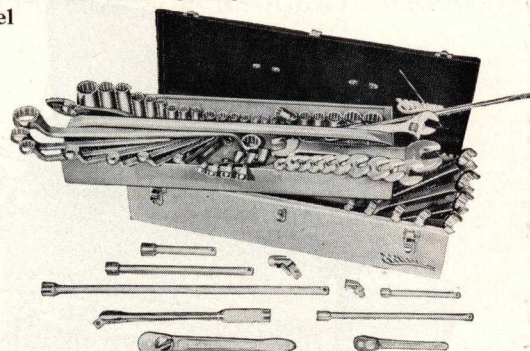
For Diesel Engine
ElectriciansTotal Weight,
33 lbs.

SET No. DLP-65

For Diesel Engine
Pipe FittersTotal Weight,
41-1/2 lbs.

All Sets Complete in Metal Case, 6-3/4 x 7-1/2 x 23-1/4"

These sets are specially designed for mechanics, electricians and pipe fitters who service diesel engine installations in all types of stationary and mobile units such as power plants, locomotives, ships, trucks, tractors, buses, etc. They are particularly adapted for use by manufacturers of diesel powered equipment who require service tools as part of the original equipment or in assembly work.



Set Illustrated is DLP-65

SET No. DLM-52

No.	Description
BANTAM 3/8" DRIVE SOCKETS and ATTACHMENTS	
B-51	Reversible Ratchet, 6-1/2" long....
B-115	Extension Bar, 10-1/2" long....
B-140	Universal Joint.....
B-1212	3/8" Socket 12-Pt. Opening.....
B-1214	7/16" Socket 12-Pt. Opening.....
B-1216	1/2" Socket 12-Pt. Opening.....
B-1218	9/16" Socket 12-Pt. Opening.....
B-1220	5/8" Socket 12-Pt. Opening.....
BU-1216	1/2" Universal Socket 12-Pt.....
BU-1218	9/16" Universal Socket 12-Pt.....

STANDARD 1/2" DRIVE
SOCKETS and ATTACHMENTS

S-51	Reversible Ratchet, 10-1/2" long....
S-15	Speeder, 17-1/2" long....
S-41	Flex. Handle, 17-1/4" long....
S-110P	Extension Bar, 5-1/2" long....
S-115P	Extension Bar, 10-1/2" long....
S-140	Universal Joint.....
ST-1212	3/8" Socket 12-Pt. Opening.....
ST-1214	7/16" Socket 12-Pt. Opening.....
ST-1216	1/2" Socket 12-Pt. Opening.....
ST-1218	9/16" Socket 12-Pt. Opening.....
ST-1220	5/8" Socket 12-Pt. Opening.....
ST-1222	11/16" Socket 12-Pt. Opening.....
ST-1224	3/4" Socket 12-Pt. Opening.....
ST-1226	13/16" Socket 12-Pt. Opening.....
ST-1228	7/8" Socket 12-Pt. Opening.....
ST-1230	15/16" Socket 12-Pt. Opening.....
ST-1232	1" Socket 12-Pt. Opening.....
ST-1234	1-1/16" Socket 12-Pt. Opening.....
ST-1236	1-1/8" Socket 12-Pt. Opening.....
ST-1238	1-3/16" Socket 12-Pt. Opening.....
ST-1240	1-1/4" Socket 12-Pt. Opening.....
SD-1216	1/2" Extra Deep Socket, 12-Pt.....
SD-1224	3/4" Extra Deep Socket, 12-Pt.....

DOUBLE OFFSET-BOX
"SUPERRENCHES"

8725B	1/2 x 9/16" Opening.....
8727	9/16 x 5/8" Opening.....
8727A	5/8 x 11/16" Opening.....
8731A	3/4 x 7/8" Opening.....
8033A	7/8 x 15/16" Opening.....

D. H. ENGINEERS' 15° Angle
"SUPERRENCHES"

A1723	3/8 x 7/16" Opening.....
A1725	7/16 x 1/2" Opening.....
A1725B	1/2 x 9/16" Opening.....
A1727	9/16 x 5/8" Opening.....
A1027B	5/8 x 11/16" Opening.....
A1029B	11/16 x 3/4" Opening.....
A1731A	3/4 x 7/8" Opening.....
A1033A	7/8 x 15/16" Opening.....
A1033C	15/16 x 1" Opening.....

PLIERS

370	Side Cutting Pliers, 7".....
46	Diagonal Cutting Pliers, 6".....

SCREW DRIVERS

28	Screw Driver, 8".....
32	Screw Driver, 12".....

"SUPERJUSTABLE"

8"	"Superjustable" Wrench.....
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♦ REGISTERED TRADE MARK

SET No. DLE-53

No.	Description
BANTAM 3/8" DRIVE SOCKETS and ATTACHMENTS	
B-51	Reversible Ratchet, 6-1/2" long....
B-1212	3/8" Socket 12-Pt. Opening.....
B-1214	7/16" Socket 12-Pt. Opening.....
B-1216	1/2" Socket 12-Pt. Opening.....
B-1218	9/16" Socket 12-Pt. Opening.....
B-1220	5/8" Socket 12-Pt. Opening.....
B-1222	11/16" Socket 12-Pt. Opening.....
B-1224	3/4" Socket 12-Pt. Opening.....
BD-1226	13/16" Extra Deep Socket 12-Pt.....
B-140	Universal Joint.....

STANDARD 1/2" DRIVE
SOCKETS and ATTACHMENTS

S-51	Reversible Ratchet, 10-1/2" long....
S-15	Speeder, 17-1/2" long....
SB-30	Screw Driver Attachment.....
S-140	Universal Joint.....
ST-1212	3/8" Socket 12-Pt. Opening.....
ST-1214	7/16" Socket 12-Pt. Opening.....
ST-1216	1/2" Socket 12-Pt. Opening.....
ST-1218	9/16" Socket 12-Pt. Opening.....
ST-1219	19/32" Socket 12-Pt. Opening.....
ST-1220	5/8" Socket 12-Pt. Opening.....
ST-1222	11/16" Socket 12-Pt. Opening.....
ST-1224	3/4" Socket 12-Pt. Opening.....
ST-1225	25/32" Socket 12-Pt. Opening.....
ST-1226	13/16" Socket 12-Pt. Opening.....
ST-1228	7/8" Socket 12-Pt. Opening.....
ST-1230	15/16" Socket 12-Pt. Opening.....
ST-1232	1" Socket 12-Pt. Opening.....
ST-1234	1-1/16" Socket 12-Pt. Opening.....
ST-1236	1-1/8" Socket 12-Pt. Opening.....
ST-1238	1-3/16" Socket 12-Pt. Opening.....
ST-1240	1-1/4" Socket 12-Pt. Opening.....

D. H. ENGINEERS' 15° Angle
"SUPERRENCHES"

A1721	5/16 x 3/8" Openings.....
A1723	3/8 x 7/16" Openings.....
A1725	7/16 x 1/2" Openings.....
A1725B	1/2 x 9/16" Openings.....
A1727	9/16 x 5/8" Openings.....
A1027	19/32 x 11/16" Openings.....
A1027B	5/8 x 11/16" Openings.....
A1729	5/8 x 3/4" Openings.....
A1029B	11/16 x 3/4" Openings.....
A1731A	3/4 x 7/8" Openings.....
A1031B	25/32 x 13/16" Openings.....
A1033A	7/8 x 15/16" Openings.....
A1033C	15/16 x 1" Openings.....
A1735	1 x 1-1/8" Openings.....
A1036B	1-1/16 x 1-1/8" Openings.....

PLIERS

46	Diagonal Pliers, 6".....
76	Needle Nose Pliers, 6".....
370	Side Cutting Pliers, 7".....

SCREW DRIVERS

28	Screw Driver, 8".....
32	Screw Driver, 12".....
62	Stubby Screw Driver.....

"SUPERJUSTABLE"

10"	"Superjustable" Wrench.....
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SET No. DLP-65

No.	Description
BANTAM 3/8" DRIVE SOCKETS and ATTACHMENTS	
B-51	Reversible Ratchet, 6-1/2" long....
B-110	Extension Bar, 5-1/2" long....
B-115	Extension Bar, 10-1/2" long....
B-140	Universal Joint.....
B-1212	3/8" Socket 12-Pt. Opening.....
B-1214	7/16" Socket 12-Pt. Opening.....
B-1216	1/2" Socket 12-Pt. Opening.....
B-1218	9/16" Socket 12-Pt. Opening.....
B-1220	5/8" Socket 12-Pt. Opening.....
B-1222	11/16" Socket 12-Pt. Opening.....
B-1224	3/4" Socket 12-Pt. Opening.....
BD-1216	1/2" Extra Deep Socket 12-Pt.....
BD-1220	5/8" Extra Deep Socket 12-Pt.....
BD-1224	3/4" Extra Deep Socket 12-Pt.....

STANDARD 1/2" DRIVE
SOCKETS and ATTACHMENTS

S-40	Flex Handle, 12" long....
S-51	Reversible Ratchet, 10-1/2" long....
S-110P	Extension Bar, 5-1/2" long....
S-115P	Extension Bar, 10-1/2" long....
S-121P	Extension Bar, 20" long....
S-140	Universal Joint.....
ST-1216	3/8" Socket 12-Pt. Opening.....
ST-1218	9/16" Socket 12-Pt. Opening.....
ST-1220	5/8" Socket 12-Pt. Opening.....
ST-1222	11/16" Socket 12-Pt. Opening.....
ST-1224	3/4" Socket 12-Pt. Opening.....
ST-1228	7/8" Socket 12-Pt. Opening.....
ST-1234	1-1/16" Socket 12-Pt. Opening.....
ST-1236	1-1/8" Socket 12-Pt. Opening.....
SU-1224	3/4" Universal Socket 12-Pt.....
SD-1224	3/4" Extra Deep Socket 12-Pt.....
SD-1228	7/8" Extra Deep Socket 12-Pt.....
SD-1236	1-1/8" Extra Deep Socket 12-Pt.....

DOUBLE OFFSET-BOX
"SUPERRENCHES"

8723	3/8 x 7/16" Openings.....
8725B	1/2 x 9/16" Openings.....
8727	9/16 x 5/8" Openings.....
8727A	5/8 x 11/16" Openings.....
8729	5/8 x 3/4" Openings.....
8731A	3/4 x 7/8" Openings.....
8037	1-1/16 x 1-1/4" Openings.....
9723	3/8 x 7/16" (Short Pattern).....
9725B	1/2 x 9/16" (Short Pattern).....
9725	7/16 x 1/2" (Short Pattern).....
9727	9/16 x 5/8" (Short Pattern).....

FLARE NUT PATTERN
"SUPERRENCHES"

1318	9/16" Opening.....
1320	5/8" Opening.....
1322	11/16" Opening.....
1324	3/4" Opening.....
1328	7/8" Opening.....
1332	1" Opening.....
1334	1-1/16" Opening.....
1336	1-1/8" Opening.....

D. H. ENGINEERS' 15° Angle
"SUPERRENCHES"

A1723	3/8 x 7/16" Openings.....
A1725	7/16 x 1/2" Openings.....
A1725B	1/2 x 9/16" Openings.....
A1727	9/16 x 5/8" Openings.....
A1027B	5/8 x 11/16" Openings.....
A1729	5/8 x 3/4" Openings.....
A1029B	11/16 x 3/4" Openings.....
A1731A	3/4 x 7/8" Openings.....
A1031B	25/32 x 13/16" Openings.....
A1033A	7/8 x 15/16" Openings.....
A1036B	1-1/16 x 1-1/8" Openings.....

MISCELLANEOUS TOOLS

8"	"Superjustable" Wrench.....
370	Side Cutting Pliers, 7".....
32	Screw Driver, 12".....

WILLIAMS' ♦ "SUPERSOCKET" WRENCH SETS

Selected Alloy Steel

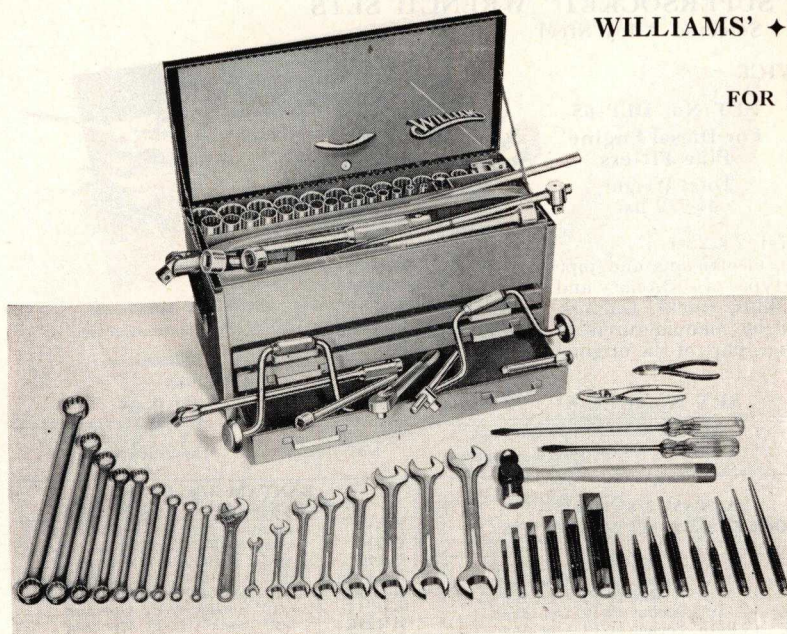
FOR GENERAL DIESEL ENGINE SERVICE

SET No. DLS-70

Complete in Metal Chest

10-1/4 x 12 x 23-1/2"

Total Weight, 96-1/8 lbs.



This set is specially designed for mechanics doing general service work on diesel engine installations in all types of stationary and mobile units such as power plants, locomotives, ships, trucks, tractors, buses, etc. It contains all the standard tools needed for general diesel engine service work. Ideal for all diesel locomotive service shops.

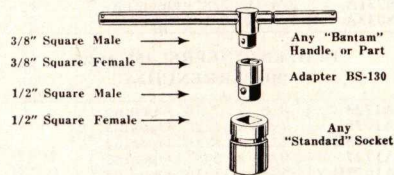
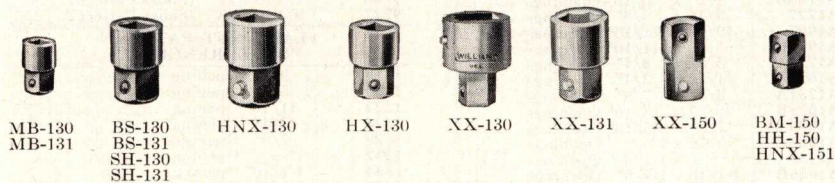
Chest is constructed of heavy gauge steel adequately reinforced and welded. Drawers with handy compartments operate on free acting suspension slides. Removable "tote" tray gives easy access to the roomy interior. Cylinder lock on hinged front panel locks entire chest.

One Ea. No.	Description
STD. 1/2" Dr. SOCKETS and ATTACH'TS	
S-10	Speeder, 12" long.....
S-15	Speeder, 17-1/2" long.....
S-20A	Sliding T Handle, 11" long.....
S-41	Flex Handle, 17-1/4" long.....
S-51	Reversible Ratchet, 10-1/2" long.....
S-110P	Extension Bar, 5-1/2" long.....
S-115P	Extension Bar, 10-1/2" long.....
S-140	Universal Joint.....
ST-1212	3/8" 12 Pt. Socket.....
ST-1214	7/16" 12 Pt. Socket.....
ST-1216	1/2" 12 Pt. Socket.....
ST-1218	9/16" 12 Pt. Socket.....
ST-1219	19/32" 12 Pt. Socket.....
ST-1220	5/8" 12 Pt. Socket.....
ST-1222	11/16" 12 Pt. Socket.....
ST-1224	3/4" 12 Pt. Socket.....
ST-1225	25/32" 12 Pt. Socket.....
ST-1226	13/16" 12 Pt. Socket.....
ST-1228	7/8" 12 Pt. Socket.....
ST-1230	15/16" 12 Pt. Socket.....
ST-1231	31/32" 12 Pt. Socket.....
ST-1232	1" 12 Pt. Socket.....
ST-1234	1-1/16" 12 Pt. Socket.....
ST-1236	1-1/8" 12 Pt. Socket.....
ST-1238	1-3/16" 12 Pt. Socket.....
ST-1240	1-1/4" 12 Pt. Socket.....
"SUPERJUSTABLES"	
8"	"Superjustable" Wrench.....

One Ea. No.	Description
HEAVY DUTY 3/4" Dr. Sockets and Attach'ts	
H-20A	Sliding T Handle, 17-1/2" long.....
H-41	Flex Handle, 20" long.....
H-41B	Sliding Bar for H-41.....
H-104	Extension Bar, 4" long.....
H-110	Extension Bar, 8" long.....
H-115	Extension Bar, 15-1/2" long.....
H-140	Universal Joint.....
H-1228	7/8" 12 Pt. Socket.....
H-1230	15/16" 12 Pt. Socket.....
H-1232	1" 12 Pt. Socket.....
H-1234	1-1/16" 12 Pt. Socket.....
H-1236	1-1/8" 12 Pt. Socket.....
H-1238	1-3/16" 12 Pt. Socket.....
H-1240	1-1/4" 12 Pt. Socket.....
H-1242	1-5/16" 12 Pt. Socket.....
H-1244	1-3/8" 12 Pt. Socket.....
H-1246	1-7/16" 12 Pt. Socket.....
H-1248	1-1/2" 12 Pt. Socket.....
H-1252	1-5/8" 12 Pt. Socket.....
15° OFFSET-BOX "SUPERRENCHES"	
7723	3/8 x 7/16" opening.....
7725	7/16 x 1/2" opening.....
7725B	1/2 x 9/16" opening.....
7727	9/16 x 5/8" opening.....
7729	5/8 x 3/4" opening.....
7029B	11/16 x 3/4" opening.....
7731A	3/4 x 7/8" opening.....
7033C	15/16 x 1" opening.....
7735A	1-1/16 x 1-1/8" opening.....
7037	1-1/16 x 1-1/4" opening.....

One Ea. No.	Description
D. H. Engineers' 15° Angle "Superrenches"	
A1723	3/8 x 7/16" opening.....
A1725B	1/2 x 9/16" opening.....
A1729	5/8 x 3/4" opening.....
A1029	11/16 x 25/32" opening.....
A1731A	3/4 x 7/8" opening.....
A1033C	15/16 x 1" opening.....
A1036B	1-1/16 x 1-1/8" opening.....
A1737	1-1/8 x 1-1/4" opening.....
Pliers, Screw Drivers and Hammer	
370	Side Cutting Pliers, 7".....
46	Diagonal Cutting Pliers, 6".....
28	Screw Driver, 8".....
32	Screw Driver, 12".....
2	Ball Pein Hammer.....
PUNCHES and CHISELS	
P-4	1/8" Pin Punch.....
P-6	3/16" Pin Punch.....
P-8	1/4" Pin Punch.....
P-13	3/32" Solid Punch.....
P-14	1/8" Solid Punch.....
P-25	5/32" Long Taper Punch.....
P-26	3/16" Long Taper Punch.....
P-30	Prick Punch.....
P-40	Center Punch.....
C-8	1/4" Cold Chisel.....
C-12	3/8" Cold Chisel.....
C-16	1/2" Cold Chisel.....
C-20	5/8" Cold Chisel.....
C-24	3/4" Cold Chisel.....
C-36	1-1/8" Cold Chisel.....

ADAPTERS FOR "SUPERSOCKET" HANDLES AND PARTS



Williams Adapters provide for the use of Sockets of one pattern with Handles and Parts of another pattern.

No.	ADAPTER	Wgt. Each	No.
BM-150	3/8" Square male and 1/4" square male—Adapts Sockets with 3/8" square drive to MR-51 Refrigeration Ratchet..	.03	BM-150
MB-130	1/4" Square female and 3/8" square male—Adapts Parts with 1/4" square drive to Sockets with 3/8" square drive ..	.05	MB-130
MB-131	1/4" Square male and 3/8" square female—Adapts Sockets with 1/4" square drive to Parts with 3/8" square drive ..	.05	MB-131
BS-130	1/2" Square male and 3/8" square female—Adapts Parts with 3/8" square drive to Sockets with 1/2" square drive ..	.13	BS-130
BS-131	3/8" Square male and 1/2" square female—Adapts Sockets with 3/8" square drive to Parts with 1/2" square drive ..	.15	BS-131
SH-130	3/4" Square male and 1/2" square female—Adapts Parts with 1/2" square drive to Sockets with 3/4" square drive ..	.31	SH-130
SH-131	3/4" Square female and 1/2" square male—Adapts Parts with 3/4" square drive to Sockets with 1/2" square drive ..	.44	SH-131
HX-130	1" Hex male and 3/4" square female—Adapts Parts with 3/4" square drive to Sockets with 1" hex drive.....	.59	HX-130
HNX-130	1" Square male and 3/4" square female—Adapts Parts with 3/4" square drive to Sockets with 1" square drive	1.7	HNX-130
XX-130	1" Hex male and 1" square female—Adapts Sockets with 1" hex drive to Parts with 1" square drive.....	1.2	XX-130
XX-131	1" Hex female and 1" square male—Adapts Sockets with 1" square drive to Parts with 1" hex drive.....	.93	XX-131
HH-150	5/8" Square male and 3/4" square male—Adapts Sockets with 5/8" square drive to Ratchets with 3/4" square drive ..	.2	HH-150
HNX-151	1" Square male and 3/4" square male—Adapts Sockets with 1" square drive to Ratchets with 3/4" square drive....	.44	HNX-151
XX-150	1" Square male and 1" hex male—Adapts Sockets with 1" square drive to Ratchets with 1" hex drive.....	.53	XX-150

DROP - FORGINGS AND **WILLIAMS** DROP - FORGED TOOLS

WILLIAMS' ♦ "SUPERSOCKET" WRENCHES Selected Alloy Steel FOR HOLLOW SCREWS



SET No. AL-102
Complete in Metal Case
13 Pieces — 10 Sockets and 3 Attachments
Total Weight, 4-1/8 lbs.
2 Color Steel Case Only
1-1/2 x 3 x 12-1/2" — Weight, 1-1/2 lbs.

Replacing old type L-shape wrenches, bent from hex bar steel, these tools provide all the advantages of the Detachable Socket Wrench system for users of Hollow-Screws.

Only Williams Bits have knurled end for fast spinning of screws before tightening.

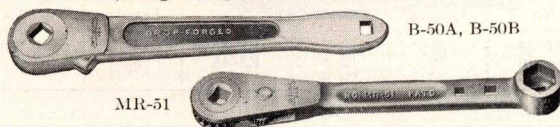
Can be interchanged with 1/4, 3/8 and 1/2" square drives.

No.	HANDLES and PARTS	Wgt. Ea.
NM-51	Reversible "Superratchet" — 1/4" Sq. Drive, 4-1/2" long	.16
B-20A	Sliding T Handle — 3/8" Square Drive, 6-1/2" long	.26
S-40	Flex Handle — 1/2" Sq. Drive, 12" long, flexible head	1.4

"SUPERSOCKET" BITS—Sold in SET No. AL-102 or Individually

Bit No.	Hex. Plug, Size	Square Drive	Weight Ea., Lbs.	For Hollow Screws	
				Set Screw	Cap Screw
NAM-604	1/8	1/4	.03	1/4	No. 8
NAM-605	5/32	1/4	.03	5/16	10 & 12
NAM-606	3/16	1/4	.03	3/8	1/4
NAM-607	7/32	1/4	.03	7/16	5/16
AB-608	1/4	3/8	.06	1/2 & 9/16	3/8 & 7/16
AB-610	5/16	3/8	.06	5/8	1/2 & 9/16
AS-612	3/8	1/2	.11	3/4	5/8
AS-616	1/2	1/2	.13	7/8	3/4 & 7/8
AS-618	9/16	1/2	.15	1 & 1 1/8	
AS-620	5/8	1/2	.14	1 1/4 & 1 3/8	

WILLIAMS' RATCHET WRENCHES (Drop-Forged—Chrome-plated)



For speedy and accurate adjustment of all valves.

No. B-50A — Weight, .43 lb.

Has 1/4" square drive-opening in ratchet; also, 1/4" square hole near end of handle. Length, 6-1/2".

No. B-50B — Weight, .43 lb.

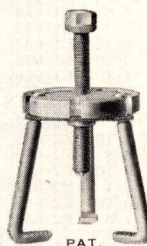
Has 5/16" square ratchet drive-opening. Length, 6-1/2".

No. MR-51 — Weight, .29 lb.

This 6" drop-forged reversible ratchet has 1/4" female drive in head, 5/16", 1/4" and 3/16" square openings and 1/2" hex opening in handle for delicate adjustment of valve stems.

WILLIAMS' WHEEL PULLER No. 5 FOR REFRIGERATION SERVICE

The body, forged from high tensile steel, has four sockets into which either two or all three of the arms may be placed in various positions, providing a combination of grips. Flywheels with even or odd numbers of spokes are pulled with equal ease. All three arms are necessary for odd-spoked wheels, while only two are needed for an even number of spokes. The pulling capacity is 7" diameter. Arms, processed from alloy steel, are held in place by an endless spring. They are instantly reversible by merely turning the arm in the socket.



No.	Capacity Diam.	Body Diam.	Length Arms	Weight Ea., Lbs.	Extra Parts		
5	7	3 1/4	4 1/4	1.7	Arms	Screw	Spring

♦ REGISTERED TRADE MARK

WILLIAMS' ♦ "SUPERSOCKET" WRENCHES Selected Alloy Steel FOR REFRIGERATION SERVICE



SET No. R-19A
20 Pieces—Total Weight, 2-3/4 lbs.
Steel Case Only
1-1/4 x 3-3/8 x 7-3/4" — Weight, 3/4 lbs.

This handy, compact assortment of "Supersocket" Wrenches has been carefully selected for servicing and repairing all makes of Electric Refrigerators. 14 slim, straight-wall Chrome-Alloy Sockets and 6 Accessories, including a specially designed Reversible Ratchet, described in table below.

CONTENTS OF SET †Midget "Supersockets" 1/4" Square Drive

No.	Square Opening	Diameter		Wgt. Each, Lbs.
		Nose	Base	
NM-406	3/16	7/16	1/2	.03
NM-407	7/32	15/32	1/2	.03
NM-408	1/4	1/2	1/2	.03
NM-810	5/16	9/16	9/16	.03
NM-812	3/8	11/16	11/16	.05

† All 7/8" long.

* 8-Point Opening. Kerotest Valve Packing Nut Socket 1/4" Square Drive

No.	Oval Opening	Extreme Size		Wgt. Each, Lbs.
		Diam.	Length	
NMR-15	1/2 x 3/8	5/8	1-1/2	.08

†Packing Gland Nut "Supersockets" 1/4" Square Drive

No.	Size Prongs		Diameter		Wgt. Each, Lbs.
	Depth	Width	Inside	Outside	
NMR-2	3/32	5/64	21/64	7/16	.03
NMR-4	3/32	1/8	21/64	15/32	.03
NMR-6	3/32	7/64	21/64	9/16	.06
NMR-8	1/8	1/8	29/64	11/16	.09
NMR-10	3/32	5/64	9/16	13/16	.13

† All 1-1/2" long.

Bantam "Supersockets" 3/8" Square Drive

No.	12-Point Opening	Diameter		Wgt. Each, Lbs.
		Nose	Base	
B-1214	7/16	39/64	21/32	.05
B-1216	1/2	11/16	11/16	.06
B-1218	9/16	49/64	49/64	.07

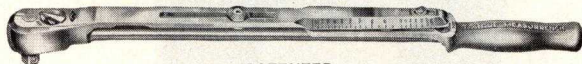
HANDLES and PARTS

No.	Piece	Weight Ea. Lbs.
MR-51	This 6" light weight drop-forged reversible ratchet has 1/4" female drive in head, 5/16", 1/4" and 3/16" square openings and 1/2" hex opening in handle for delicate adjustment of valve stems, etc.	.29
NM-20A	Sliding T Handle—4-1/2" long; 1/4" square male drive.	.1
B-110	Extension—5-1/2" long; 3/8" square drive, male and female.	.23
NM-115	Extension—6" long; 1/4" square drive, male and female.	.17
NM-150	Plug Adapter—3/4" long; both ends 1/4" square male.	.02
BM-150	Adapter—3/8" square male and 1/4" square male.	.03

WILLIAMS' TORQUE "MEASURENCH"

No. S-57

REVERSIBLE RATCHET
WITH R. H. TORQUE INDICATING SIGNAL
Standard Pattern—1/2" Square Drive



PATENTED

Weight in Metal Case, 5.9 lbs.

Williams Ratchet Torque "Measurrench" is the most efficient and durable tool for torque indicating service on the market.

Wrench may be used in two ways, as below:—

By Sight Reading—An easily read scale on the handle indicates applied tightening pressures from 20 to 200 foot-pounds.

By Sound Reading—A sharp sound signal is given for any desired torque from 35 to 200 foot-pounds, by setting the simple sound device.

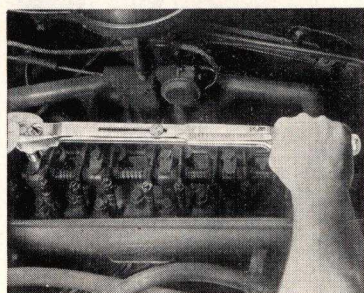
Accuracy does not depend on delicate gears, levers, or dials, but upon rugged sections of high tensile steel. Right hand torque only is measured, but the action reverses for left hand turning.

Simple in design and sturdy in construction, the reversible ratchet mechanism is a highly desirable feature. The 36-tooth ratchet wheel, with Williams twin double-tooth, oscillating pawl provides constant engagement with TWO teeth of ratchet-gear in both ON and OFF rotation of nuts.

It makes possible the unusually short operating swing of only 1/30 of a full turn; obstruction hazards are reduced to the minimum. The wrench action is instantly reversed by a mere flip of the shifter, which is flush with the head.

The well balanced drop-forged handle, with specially designed grip, is 19-1/2" long for ample leverage; the head is exceptionally compact and free from protrusions, for easy use in close places.

Every part is made of selected alloy and high tensile steel, accurately machined and heat-treated. Chrome-plated, with entire top and sides of head and calibrated bar buffed; handle, "satin" chrome. Packed in individual metal case.



Operating instructions are supplied with each wrench along with a chart giving the foot-pounds tension to be applied on cylinder heads, connecting rods, main bearings, etc. This data covers all popular cars and trucks as recommended by their manufacturers.

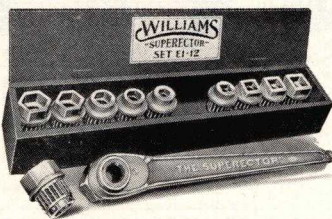
♦ **"SUPERECTOR"**
SET No. E1-12

Total Weight, 42 lbs.

12 Pieces

In Wooden Box
36 x 6 x 5-1/2"

"Superector" Wrench
and 11 Sockets



CONTENTS

One Ea. No.	Description	One Ea. No.	Description
E1-417	1-1/16"—Square Socket.	E1-623	1-7/16"—Hex Socket ...
E1-420	1-1/4"—Square Socket.	E1-626	1-5/8"—Hex Socket ...
E1-423	1-7/16"—Square Socket.	E1-629	1-13/16"—Hex Socket ...
E1-426	1-5/8"—Square Socket.	E1-632	2"—Hex Socket ...
E1-617	1-1/16"—Hex Socket ...	E1-635	2-3/16"—Hex Socket ...
E1-620	1-1/4"—Hex Socket ...	E1-24	Reversible Ratchet, 24"

♦ REGISTERED TRADE MARK

WILLIAMS' "SUPERECTOR"
REVERSIBLE RATCHET WRENCHES

With Quadruple Pawls and Drop-Forged Handles



PATENTED

Only Williams "SUPERECTOR" offers all the following advantages:—

SOCKETS have hole extending clear through their center so that nuts may be turned all the way down on any length of bolt.



Hex
Sockets

QUADRUPLE PAWLS.

Instead of the usual single pawl, bearing against one gear tooth, the "Superector" provides increased bearing and strength by 2 pawls engaging 2 teeth for both ON and OFF rotation of nuts.



Square
Sockets

HANDLE, or Wrench proper, is **drop-forged**—not cast—in order to utilize the extra strength afforded by the pawls.

GEAR TEETH. The "Superector" is the only line of wrenches of this type with 20 teeth in all socket gears, instead of the usual 16 teeth. Consequently, all wrenches will rotate nuts with only an 18° swing of the wrench as against 22-1/2°.

SHIFTER-LEVER, when in neutral, completely disengages all pawls for easy insertion and removal of the Socket. A flip of the lever reverses the action of the wrench.

SOCKET RETAINING COLLAR has a projection on its inner surface which registers easily with a corresponding slot in the neck of the Socket. No fumbling for set screw "spots" when engaging the headless, slotted socket screws.

COVER PLATE, securely seated in the wrench head, is fastened by one screw, fully enclosing the mechanism and permitting easy removal.

FINISH. Wrenches and Sockets are finished in baked light gray enamel.

Whitworth Standard sizes on page 65.

WRENCHES

No.	Length	Wgt. Ea.	No.	Length	Wgt. Ea.
E1-24	24	9.3	E2-48	48	24.
E1-36	36	12.8	E3-48	53	40.6
E2-36	36	20.9			

SOCKETS

Nominal Opening, Size Across Flats	Number				Amer.Std. Heavy Nut (U.S.S.) Hex&Sqr.	Amer.Std. Light Nut (S.A.E.) Hex Only	Amer.Std. Regular Nut Hex&Sqr.
	Hex Socket	Wgt. Each Lbs.	Square Socket	Wgt. Each Lbs.			

E1 SOCKETS below fit E1-24 and E1-36 Wrenches ONLY

1	1/16"	E1-617	2.6	E1-416	2.6		5/8	
1	1/8"	E1-618	2.6	E1-417	2.6	5/8	3/4	
1	1/4"	E1-620	2.5	E1-418	2.6			3/4
1	5/16"	E1-621	2.5	E1-420	2.6	3/4	7/8	
1	7/16"	E1-623	2.5	E1-421	2.6			7/8
1	1/2"	E1-624	2.5	E1-423	2.8	7/8	1	
1	5/8"	E1-626	2.6	E1-424	2.8			1
1	11/16"	E1-627	2.6	E1-426	2.9	1	1 1/8	1 1/8
1	3/4"	E1-628	2.6					
1	13/16"	E1-629	2.8	E1-429	3.3	1 1/8	1 1/4	
1	7/8"	E1-630	2.8	E1-430	3.3			1 1/4
2	1/8"	E1-632	3.2	E1-432	3.5	1 1/4	1 3/8	
2	1/16"	E1-633	3.2					1 3/8
2	3/16"	E1-635	3.6	E1-435	4.	1 3/8	1 1/2	
2	1/4"	E1-636	3.6	E1-436	4.			1 1/2

E2 SOCKETS below fit E2-36 and E2-48 Wrenches ONLY

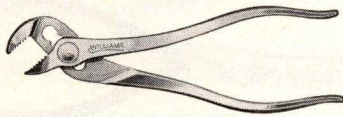
2	3/16"	E2-632	5.5	E2-432	5.7	1 1/4	1 3/8	
2	3/8"	E2-635	5.8	E2-435	6.	1 3/8	1 1/2	
2	3/8"	E2-638	6.3	E2-438	6.5	1 1/2		
2	9/16"	E2-641	6.7	E2-441	7.1	1 5/8		
2	3/4"	E2-644	7.2	E2-444	7.9	1 3/4		
2	15/16"	E2-647	8.	E2-447	9.	1 7/8		
3	1/8"	E2-650	9.	E2-450	10.	2		

E3 SOCKETS below fit E3-48 Wrenches ONLY

3	1/8"	E3-650	14.9	E3-450	16.	2		
3	1/2"	E3-656	15.6	E3-456	17.	2 1/4		
3	7/8"	E3-662	16.8	E3-462	18.3	2 1/2		
4	1/4"	E3-668	17.9	E3-468	19.9	2 3/4		
4	5/8"	E3-674	18.4	E3-474	22.5	3		

See page 68 for New American Standard Square and Hexagon Bolts and Nuts, as related to nominal wrench openings.

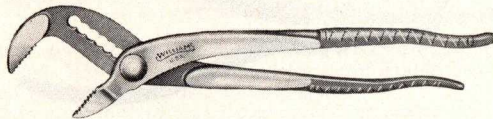
WILLIAMS' "SUPERPLIERS" (Slip-Joint)



Midget No. 1519, 4-position joint opens 0 to 9/16", with jaws parallel at the most important openings. Efficient for wiring, panel, switchboard, radio, and other delicate work. Chrome-plated over nickel, faces polished.

No.	Length	Weight Each, Lbs.
1519	4 1/2	.08

WILLIAMS' SUPERPLIERS (Slip-Joint)

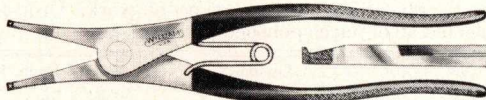


Standard No. 1520 is long and slim; 8-position joint opens 0 to 2". Diamond embossed handles provide firm hand grip. Gray satin finish, faces polished.

Heavy Duty No. 1521, 7-position slip-joint opens 0 to 2". Heavy duty construction makes this plier particularly useful in plumbing and electrical trades. Diamond embossed handles provide firm hand grip. Gray satin finish, faces polished.

No.	Length	Weight Each, Lbs.
1520	9 1/2	.57
1521	10	1.6

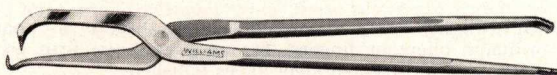
WILLIAMS' LOCK RING PLIERS For Snap Lock Rings



Pliers are designed for spreading "Horse Shoe" snap lock rings on automotive brakes, transmissions, differentials, pulleys, etc. Finish, gun metal blue handles with polished nose.

No.	Length	Weight Each, Lbs.
1515	8	.33

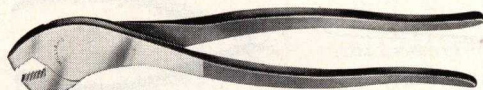
WILLIAMS' BRAKE PLIERS For inserting and removing springs (internal)



For use only on passenger cars, light and medium trucks excepting Ford "A". Gray satin finish; head faces polished.

No.	Length	Weight Each, Lbs.
1517	13	.75

WILLIAMS' BATTERY PLIERS



Offset jaws allow ample hand clearance for battery terminal work. Milled teeth assure positive grip. Drop-forged from selected steel, faces polished.

No.	Length	Weight Each, Lbs.
67	7	.48

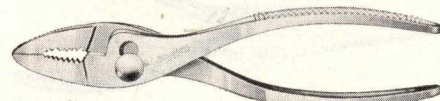
WILLIAMS' COMBINATION SLIP-JOINT PLIERS



These Combination Pliers, with 2 position slip-joints, are very efficient for general service. All are sturdy, well designed tools. Drop-forged from selected steel, with knurled handles; polished and nickel-plated.

No.	Length	Weight Each, Lbs.
*5	5	.27
6	6	.44
8	8	.53
10	10	.88

WILLIAMS' THIN NOSE COMBINATION SLIP-JOINT PLIERS



These thin nose pliers, with 2 position slip-joints, are very efficient for close-quarters work. They are sturdy, well designed tools. Drop-forged from selected steel, knurled handles; polished and nickel-plated.

No.	Length	Weight Each, Lbs.
15	5	.25
16	6	.36

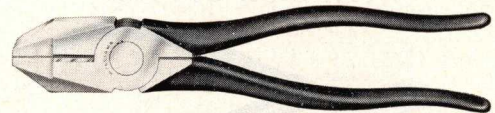
WILLIAMS' COMBINATION SLIP-JOINT PLIERS WITH SIDE CUTTER



These sturdy combination pliers have keen side cutters and a flush head rivet on one side. Drop-forged from selected steel, with knurled handles; faces polished.

No.	Length	Weight Each, Lbs.
370	7	.53

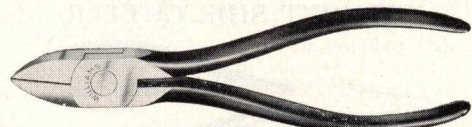
WILLIAMS' LINEMEN'S SIDE CUTTING PLIERS



These are heavy duty well-balanced pliers to meet the requirements of linemen and electricians. Surfaces of jaws are deep milled for holding and bending wire. Jaws have powerful cutters. Drop-forged from selected steel, faces polished.

No.	Length	Weight Each, Lbs.
206	6	.43
207	7	.59
208	8	.96

WILLIAMS' DIAGONAL CUTTING PLIERS

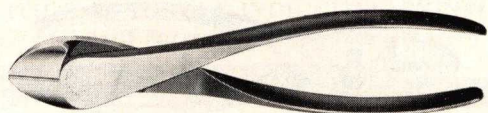


Mechanics and electricians find many uses for these rugged tools. Cutting edges are made for lasting service. Drop-forged from selected steel, faces polished.

No.	Length	Weight Each, Lbs.
46	6	.35
47	7	.52

* DISCONTINUED will supply until stock is exhausted.

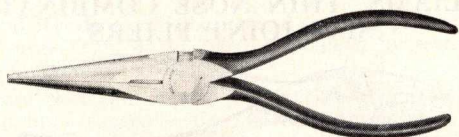
**WILLIAMS' HIGH LEVERAGE
DIAGONAL CUTTING PLIERS**



Added leverage for easier and more powerful cutting. They are particularly adapted to heavy duty work. Drop-forged from selected steel, faces polished.

No.	Length	Weight Each, Lbs.
57	7	.58

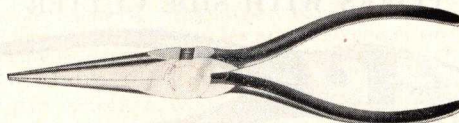
**WILLIAMS' LONG CHAIN NOSE PLIERS
WITH SIDE CUTTER**



Long, thin nose for close quarters with side-cutting jaws. Ideal for ignition and electrical work, etc. Drop-forged from selected steel, faces polished.

No.	Length	Weight Each, Lbs.
76	6	.33
77	7	.42

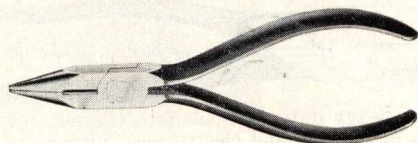
**WILLIAMS' LONG CHAIN NOSE PLIERS
WITHOUT SIDE CUTTER**



Long, tapered nose is ideal in close quarters encountered in ignition and electrical work. Drop-forged from selected steel, faces polished.

No.	Length	Weight Each, Lbs.
86	6	.31
87	7	.42

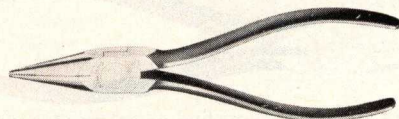
**WILLIAMS' SHORT CHAIN NOSE PLIERS
WITH SIDE CUTTER**



For fine mechanical work such as done in the jewelry, optical and electronics fields. Jaws have side cutters. Drop-forged from selected steel, faces polished.

No.	Length	Weight Each, Lbs.
95	5	.23

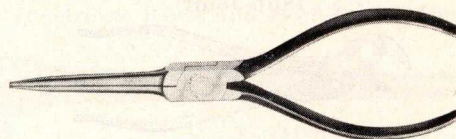
**WILLIAMS' SHORT CHAIN NOSE PLIERS
WITHOUT SIDE CUTTER**



For fine mechanical work such as done in the jewelry, optical and electronics trades. No cutter in jaws. Drop-forged from selected steel, faces polished.

No.	Length	Weight Each, Lbs.
105	5	.23

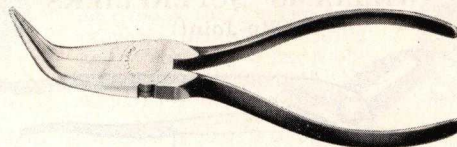
WILLIAMS' LONG NEEDLE NOSE PLIERS



The long slender jaws have strong gripping ability. Jaws will not become distorted in normal use. Drop-forged from selected steel, faces polished.

No.	Length	Weight Each, Lbs.
116	6	.21

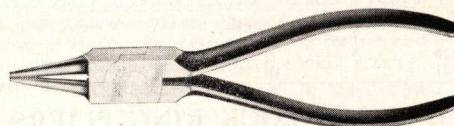
WILLIAMS' BENT NEEDLE NOSE PLIERS



The long slender jaws are bent to reach around or under obstructions. Jaws have strong gripping ability. Drop-forged from selected steel, faces polished.

No.	Length	Weight Each, Lbs.
126	6	.21

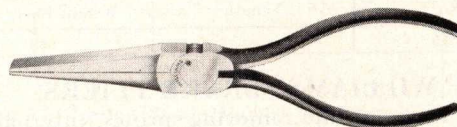
WILLIAMS' ROUND NOSE PLIERS



Extensively used for flat or round wire forming. Nose and jaws are amply strong for this type of work. Drop-forged from selected steel, faces polished.

No.	Length	Weight Each, Lbs.
134	4	.13
136	6	.37

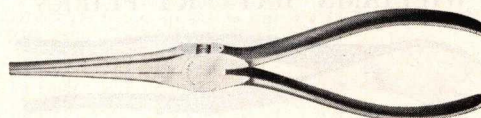
**WILLIAMS' DUCK BILL PLIERS
(Flat Jaws)**



Used in highly inaccessible places where there is not space for ordinary pliers or fingers. Strong jaws have firm grip. Drop-forged from selected steel, faces polished.

No.	Length	Weight Each, Lbs.
146	6	.42

**WILLIAMS' EXTRA LONG
DUCK BILL PLIERS**

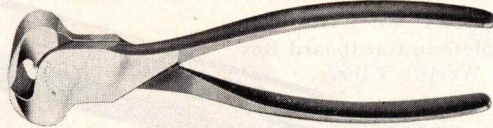


Widely used by textile weavers, telephone maintenance men and punch press operators for inserting and removing work. Drop-forged from selected steel, faces polished.

No.	Length	Weight Each, Lbs.
157	7	.37

DROP - FORGINGS AND WILLIAMS DROP - FORGED TOOLS

WILLIAMS' END CUTTING NIPPERS



These powerful easy cutting nippers have carefully sharpened edges. Wide throat provides ample clearance. Drop-forged from selected steel, faces polished.

No.	Length	Weight Each, Lbs.
166	6	.65
167	7	.75

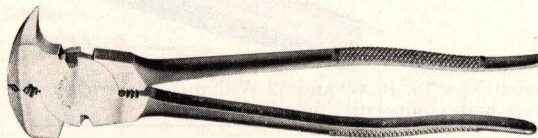
WILLIAMS' GAS AND BURNER PLIERS



These pliers have larger capacities than ordinary pliers of this type. Handles are designed for comfortable grip. Drop-forged from selected steel, faces polished.

No.	Length	Weight Each, Lbs.
178	8	.81
180	10	1.3

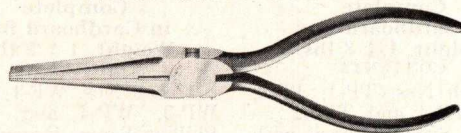
WILLIAMS' FENCE PLIERS AND STAPLE PULLER



For maintaining and installing wire fence on metal or wood posts. Head has hammer on one jaw, starting and pulling point on the other. Pliers also have two wire cutters, staple puller and wire splicer in nose, wire stretcher and lug lifter. Drop-forged from selected steel.

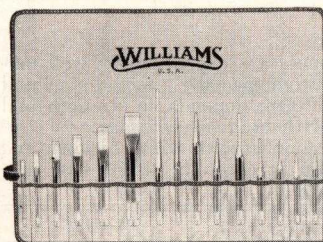
No.	Length	Weight Each, Lbs.
190	10	1.5

WILLIAMS' LONG FLAT NOSE PLIERS WITH SIDE CUTTER



Side cutting jaws have long gripping surfaces. In addition to auto radiator repair work these pliers are widely used in textile mills on certain types of knitting machines. Drop-forged from selected steel, faces polished.

No.	Length	Weight Each, Lbs.
196	6	.33

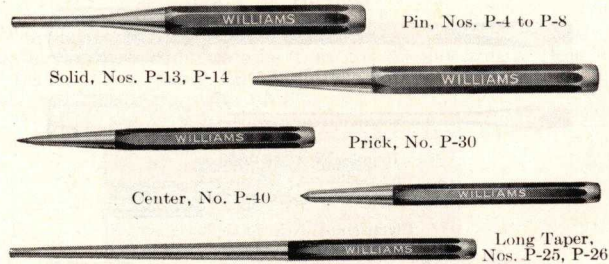


PUNCH and CHISEL SET No. PC-15

In Leatherette Roll
In Cardboard Box
Weight, 7.2 lbs.

This combination set contains a complete assortment of Williams Punches and Chisels. Set contains six Cold or Flat Chisels 1/4" to 1-1/8" wide; three Pin Punches with 1/8", 3/16" and 1/4" points; two Solid Punches with 3/32" and 1/8" points; two Long Taper Punches with 5/32" and 3/16" points; one Prick Punch and one Center Punch, each 5" long.

WILLIAMS' PUNCHES AND CHISELS

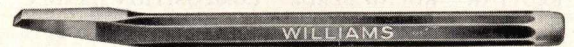


Williams' Punches are forged from high grade octagon alloy steel, properly hardened and tempered to stand up under the most severe service. Body finished in black, with the taper and head full polished. Packed 6 in cardboard box.

No.	Point Diam.	Stock Size	Length	Wgt., Each
PIN PUNCHES				
P-4	1/8	3/8	6	.16
P-6	3/16	1/2	6	.25
P-8	1/4	5/8	8	.53
SOLID PUNCHES				
P-13	3/32	1/2	6	.28
P-14	1/8	1/2	8	.41
LONG TAPER PUNCHES				
P-25	5/32	3/8	9	.22
P-26	3/16	1/2	10	.41
PRICK PUNCH				
P-30		3/8	5	.13
CENTER PUNCH				
P-40		3/8	5	.16



Cold, Nos. C-8 to C-36



Rivet Buster No. C-422

COLD, or FLAT CHISELS

Williams Chisels of high grade octagon alloy steel, are carefully forged, hardened and tempered. Ample hard for work on tempered material, yet soft enough to minimize chipping and to permit resharpening with a file. Body finished in black with full polished bit and head. Packed 6 in cardboard box, excepting No. C-36, 3 in a box.

RIVET BUSTER

Designed especially for cutting off hardened rivet heads. A great time saver when used for this purpose, instead of the ordinary chisel. Packed 3 in a box.

No.	Width of Cut	Stock Size	Length	Wgt., Each
Cold, or FLAT CHISELS				
C-8	1/4	1/4	4 3/4	.06
C-12	3/8	3/8	5 1/2	.16
C-16	1/2	1/2	6	.31
C-20	5/8	5/8	6 1/2	.5
C-24	3/4	3/4	7	.78
C-36	1 1/8	1	8	1.6

RIVET BUSTER

No.	Width of Cut	Stock Size	Length	Wgt., Each
C-422	1 1/16	3/4	12	1.4

PUNCH SET No. P-9

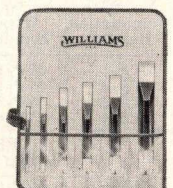
In Leatherette Roll
In Cardboard Box
Weight, 3 lbs.

This handy punch set contains three Pin Punches with 1/8", 3/16" and 1/4" points; two Solid Punches with 3/32" and 1/8" points; two long Taper Punches with 5/32" and 3/16" points; one Prick Punch and one Center Punch, each 5" long.

CHISEL SET No. C-6

In Leatherette Roll
In Cardboard Box
Weight, 4.3 lbs.

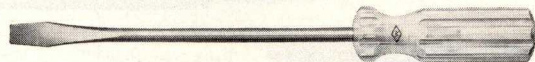
This compact chisel set contains six Cold or Flat Chisels 1/4", 3/8", 1/2", 5/8", 3/4" and 1-1/8" wide.



WILLIAMS' SCREW DRIVERS



Regular Nos. 4 to 12



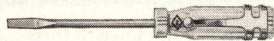
Regular Nos. 24 to 32



Electricians' Nos. 43 to 50



Regular Stubby No. 62



Pocket No. 52

Williams Regular, Electricians', Pocket and Stubby (adjusting) Screw Drivers are all fitted with handles of a tough transparent composition, an insulator of electricity. Fluted for sure, comfortable grip. The blades, hardened and tempered throughout their entire length, are solidly anchored in the handles.

Regular patterns are available with either square or round blades. Electricians' have round blades and the Stubby a square blade. The Pocket has round blade and is fitted with pocket clip which is secured in a grooved recess, as illustrated.

All Screw Drivers packed 6 in cardboard box, excepting No. 52, 12 per box.

REGULAR — SQUARE BLADE — COMPOSITION HANDLE

No.	Blade Length	Stock Size	Tip Width	Wgt. Ea., Lbs.
4	4	1/4	5/16	.19
6	6	5/16	5/16	.38
6B	6	3/8	3/8	.5
8	8	3/8	3/8	.59
12	12	3/8	3/8	.75

REGULAR — ROUND BLADE — COMPOSITION HANDLE

24	4	1/4	5/16	.19
26	6	5/16	5/16	.33
28	8	3/8	3/8	.53
32	12	3/8	3/8	.66

ELECTRICIANS'—ROUND BLADE—COMPOSITION HANDLE

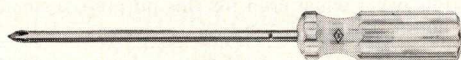
43	3	3/16	3/16	.09
46	6	3/16	3/16	.14
50	10	3/16	3/16	.17

POCKET (with Clip)—ROUND BLADE—COMPOSITION HANDLE

52	2 1/4	1/8	1/8	.03
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REGULAR STUBBY (Adjusting)—COMPOSITION HANDLE

62	1 1/2	1/4	5/16	.14
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Phillips Nos. TP-1 to TP-4



Phillips Nos. WP-1 to WP-4



Phillips Stubby No. TP-62



Phillips Stubby No. WP-62

FOR PHILLIPS SCREWS

These Williams Screw Drivers, will fit the entire range of Phillips recessed-head screws. These, and the Phillips Stubby (adjusting), Screw Driver have round Selected Alloy Steel blades, hardened and tempered, that are securely anchored in handles made of wood or a tough transparent composition which is an insulator of electricity. Fluted for sure, comfortable grip.

All Screw Drivers packed 6 in cardboard box.

PHILLIPS — COMPOSITION OR WOOD HANDLE

No. With Composition Handles	No. With Wood Handles	Fits Screws No.	Blade Length	Stock Size	Weight Each, Lbs.
TP-1	WP-1	4 and Smaller	3	9/64	.06
TP-2	WP-2	5 to 9 incl.	4	1/4	.19
TP-3	WP-3	10 to 16 incl.	6	5/16	.31
TP-4	WP-4	18 and larger	8	3/8	.53

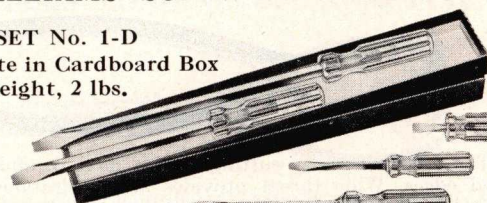
PHILLIPS STUBBY (Adjusting) COMPOSITION OR WOOD HANDLES

TP-62	WP-62	5 to 9 incl.	1 1/2	1/4	.09
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WILLIAMS' SCREW DRIVER SETS

SET No. 1-D

Complete in Cardboard Box
Weight, 2 lbs.

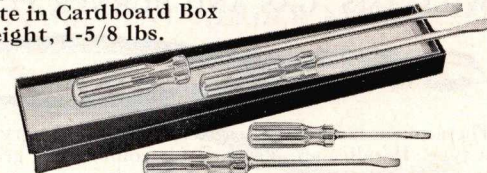


CONTENTS

1 each Nos. 4, 6, 8, 12 and 62 Regular Williams Screw Drivers with square blades and composition handles.

SET No. 2-D

Complete in Cardboard Box
Weight, 1-5/8 lbs.

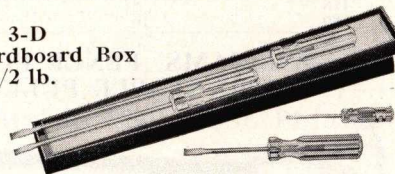


CONTENTS

1 each Nos. 24, 26, 28 and 32 Regular Williams Screw Drivers with round blades and composition handles.

SET No. 3-D

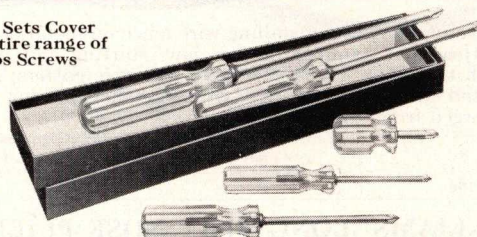
Complete in Cardboard Box
Weight, 1/2 lb.



CONTENTS

1 each Nos. 43, 46, 50 and 52 Williams Electricians' Screw Drivers with composition handles.

These Sets Cover
the entire range of
Phillips Screws



SET No. TP-5

Complete
in Cardboard Box
Weight, 1-1/8 lbs.

CONTENTS

1 each Nos. TP-1, TP-2, TP-3, TP-4 and TP-62 Phillips Screw Drivers with composition handles.

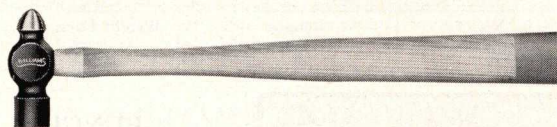
SET No. WP-5

Complete
in Cardboard Box
Weight, 1-1/8 lbs.

CONTENTS

1 each Nos. WP-1, WP-2, WP-3, WP-4 and WP-62 Phillips Screw Drivers with hard wood handles.

WILLIAMS' MACHINISTS' BALL PEIN HAMMERS



Williams Ball Pein Hammers are exceptionally well balanced. They are drop-forged from specially selected steel and carefully heat-treated for uniform, dependable strength and hardness. They are built to withstand severe usage.

Handles are made from second growth white hickory and clear lacquered. Each handle is carefully fitted and permanently wedged into the head.

No.	Length	Weight
7-0	9 3/4	2 oz.
5-0	9 3/4	1/4 lb.
3-0	11 1/2	1/2 lb.
2-0	13 1/2	3/4 lb.
0	14	1 lb.
2	14 1/2	1 1/2 lbs.
4	15 1/2	2 lbs.
6	16	2-1/2 lbs.

DROP - FORGINGS AND WILLIAMS DROP - FORGED TOOLS

WILLIAMS' SOFT-FACE HAMMERS

With "Nuplaflex" and Nylon Interchangeable Tips

"Nuplaflex" is highly resistant to oil, gasoline, common industrial solvents and acids. It is non-explosive and electrically non-conductive.

15-4V
Nylon
Cross
Peen
Tip



"Nuplok" (Pat. Pending) tip locking device is used throughout. All hammers have selected hickory handles. Series 100, 150, 153, 200, 250 and 300 have die-cast aluminum alloy heads with bright finish. Series 105, 155, 205, 207, 255 and 305 have die-cast zinc-alloy heads with bright finish. Nylon Tipped Cross Peen Hammer No. 153-44V is specially designed for peening work in aircraft and automotive assembly and sheet metal work. The long, light-weight head has one wedge-pointed Cross Peen Nylon tip, No. 15-4V, and one regular round Nylon tip, No. 15-4.

Nylon Cross Peen Tip No. 15-4V will also fit in Williams Soft-Face Hammers, series 150 and 155.

SOFT-FACE HAMMERS COMPLETE WITH TIPS

No.	Head Dia. Inches	Head Lgth. In.	Handle Lgth. In.	Weight	Kind of Tip	Min. Quan. Pkg.
100-1	1	3-1/2	11-3/8	5 oz.	Soft	6
100-2	1	3-1/2	11-3/8	5 oz.	Medium	6
100-3	1	3-1/2	11-3/8	5 oz.	Tough	6
100-4	1	3-1/2	11-3/8	5 oz.	Nylon	6
105-1	1	3-1/2	11-3/8	8 oz.	Soft	6
105-2	1	3-1/2	11-3/8	8 oz.	Medium	6
105-3	1	3-1/2	11-3/8	8 oz.	Tough	6
105-4	1	3-1/2	11-3/8	8 oz.	Nylon	6
150-1	1-1/2	4-3/8	13	3/4 lb.	Soft	6
150-2	1-1/2	4-3/8	13	3/4 lb.	Medium	6
150-3	1-1/2	4-3/8	13	3/4 lb.	Tough	6
150-4	1-1/2	4-3/8	13	3/4 lb.	Nylon	6
153-1	1-1/2	7	13	1-1/8 lb.	Soft	6
153-2	1-1/2	7	13	1-1/8 lb.	Medium	6
153-3	1-1/2	7	13	1-1/8 lb.	Tough	6
153-4	1-1/2	7	13	1-1/8 lb.	Nylon	6
153-44V	1-1/2	7	13	1-1/8 lb.	†Nylon	6
155-1	1-1/2	4-3/8	13	1-1/4 lb.	Soft	6
155-2	1-1/2	4-3/8	13	1-1/4 lb.	Medium	6
155-3	1-1/2	4-3/8	13	1-1/4 lb.	Tough	6
155-4	1-1/2	4-3/8	13	1-1/4 lb.	Nylon	6
200-1	2	5	13	1-1/4 lb.	Soft	6
200-2	2	5	13	1-1/4 lb.	Medium	6
200-3	2	5	13	1-1/4 lb.	Tough	6
200-4	2	5	13	1-1/4 lb.	Nylon	6
205-1	2	5	13	2 lb.	Soft	6
205-2	2	5	13	2 lb.	Medium	6
205-3	2	5	13	2 lb.	Tough	6
205-4	2	5	13	2 lb.	Nylon	6
207-1	2	6-3/8	15	3 lb.	Soft	4
207-2	2	6-3/8	15	3 lb.	Medium	4
207-3	2	6-3/8	15	3 lb.	Tough	4
207-4	2	6-3/8	15	3 lb.	Nylon	4
250-1	2-1/2	6-1/4	15	2 lb.	Soft	4
250-2	2-1/2	6-1/4	15	2 lb.	Medium	4
250-3	2-1/2	6-1/4	15	2 lb.	Tough	4
250-4	2-1/2	6-1/4	15	2 lb.	Nylon	4
255-1	2-1/2	6-1/4	13	4 lb.	Soft	4
255-2	2-1/2	6-1/4	13	4 lb.	Medium	4
255-3	2-1/2	6-1/4	13	4 lb.	Tough	4
255-4	2-1/2	6-1/4	13	4 lb.	Nylon	4
300-1	3	7	14	3-1/2 lb.	Soft	2
300-2	3	7	14	3-1/2 lb.	Medium	2
300-3	3	7	14	3-1/2 lb.	Tough	2
300-4	3	7	14	3-1/2 lb.	Nylon	2
305-1	3	7	14	6 lb.	Soft	2
305-2	3	7	14	6 lb.	Medium	2
305-3	3	7	14	6 lb.	Tough	2
305-4	3	7	14	6 lb.	Nylon	2
*307-2	3	7-7/8	28	9 lb.	Medium	1
*307-3	3	7-7/8	28	9 lb.	Tough	1
*307-4	3	7-7/8	28	9 lb.	Nylon	1
*308-2	3	9	36	12 lb.	Medium	1
*308-3	3	9	36	12 lb.	Tough	1
*308-4	3	9	36	12 lb.	Nylon	1

EXTRA "NUPLAFLX" AND NYLON TIPS

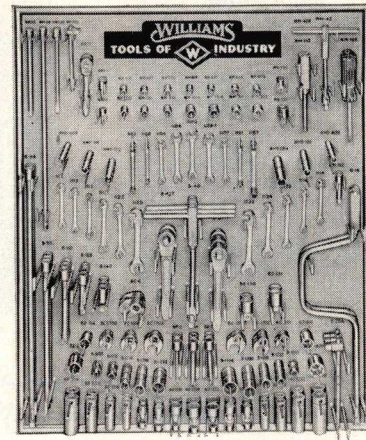
No.	Head Diam. Inches	Kind of Tip	Min. Qty. Pkg.	Wt. Ea., Lbs.	No.	Head Diam. Inches	Kind of Tip	Min. Qty. Pkg.	Wt. Ea., Lbs.
10-1	1	Soft	12	.05	20-3	2	Tough	4	.27
10-2	1	Medium	12	.05	20-4	2	Nylon	4	.27
10-3	1	Tough	12	.05	25-1	2-1/2	Soft	2	.44
10-4	1	Nylon	12	.05	25-2	2-1/2	Medium	2	.44
15-1	1-1/2	Soft	6	.14	25-3	2-1/2	Tough	2	.44
15-2	1-1/2	Medium	6	.14	25-4	2-1/2	Nylon	2	.44
15-3	1-1/2	Tough	6	.14	30-1	3	Soft	2	.66
15-4	1-1/2	Nylon	6	.14	30-2	3	Medium	2	.66
15-4V	1-1/2	†Nylon	6	.14	30-3	3	Tough	2	.66
20-1	2	Soft	4	.27	30-4	3	Nylon	2	.66
20-2	2	Medium	4	.27					

* Head made of steel with rust proof black finish.
† Hammer furnished with one regular round and one Cross Peen Tip.
‡ Cross Peen Tip.

WILLIAMS' TOOL DISPLAY BOARDS

(24 x 30 Inches)

The flexibility of Williams Tool Display Boards makes possible limitless combinations to fit any display area or type of trade. Their many outstanding features contribute to increased sales and greater profits.



No. 101

**1/4" Drive Midget, 3/8" Drive Bantam
"Supersockets" and Midget "Superrenches"**

Weight, Board Only—22 lbs.

Weight, Tools Only—23 lbs.

CONTENTS

Quantity and No.	Description	Quantity and No.	Description
2	NM-20A Sliding T Handle...	3	1153 Midget Box...
2	NM-42 Flex Handle...	2	B-15 Speeder...
2	NM-42B Bar...	2	B-20A Sliding T Handle...
2	NM-51 Ratchet...	2	B-40 Flex. Handle...
2	NM-102 Extension...	2	B-42B Bar...
2	NM-106 Extension...	1	B-50 Ratchet...
2	NM-110 Extension Driver...	3	B-51 Rev. Ratchet...
2	NM-115 Extension...	2	B-108 Extension...
2	NM-116 Extension...	2	B-110 Extension...
2	NM-126 Screw Driver...	2	B-115 Extension...
2	MB-130 Adapter...	1	B-118 Extension...
2	MB-131 Adapter...	2	BS-130 Adapter...
2	NMP-1 Phillips Attach...	2	BS-131 Adapter...
2	NMP-2 Phillips Attach...	2	B-140 Universal Joint...
2	NM-406 3/16" Socket...	2	BP-2 Phillips Attach...
2	NM-407 7/32" Socket...	2	BP-3 Phillips Attach...
2	NM-408 1/4" Socket...	2	BP-4 Phillips Attach...
2	NM-810 5/16" Socket...	2	BC-6 Adj. Crowfoot...
2	NM-812 3/8" Socket...	2	B-608 1/4" Socket...
2	NM-606 3/16" Socket...	2	B-1210 5/16" Socket...
2	NM-607 7/32" Socket...	2	B-1211 11/32" Socket...
2	NM-608 1/4" Socket...	2	B-1212 3/8" Socket...
2	NM-609 9/32" Socket...	3	B-1214 7/16" Socket...
2	NM-1210 5/16" Socket...	3	B-1216 1/2" Socket...
2	NM-1211 11/32" Socket...	3	B-1218 9/16" Socket...
2	NM-1212 3/8" Socket...	3	B-1220 5/8" Socket...
2	NM-1214 7/16" Socket...	2	B-1222 11/16" Socket...
2	NM-1216 1/2" Socket...	2	B-1224 3/4" Socket...
2	NMD-608 1/4" Socket...	2	BU-1212 3/8" Universal...
2	NMD-609 9/32" Socket...	2	BU-1214 7/16" Universal...
2	NMD-1210 5/16" Socket...	2	BU-1216 1/2" Universal...
2	NMD-1211 11/32" Socket...	2	BU-1218 9/16" Universal...
2	NMD-1212 3/8" Socket...	2	BU-1220 5/8" Universal...
2	NMD-1214 7/16" Socket...	2	BU-1222 11/16" Universal...
3	1106 Open End Midget...	2	BU-1224 3/4" Universal...
3	1107 Open End Midget...	2	BC-1700 3/8" Crowfoot...
3	1108 Open End Midget...	2	BC-1701 7/16" Crowfoot...
3	1108A Open End Midget...	2	BC-1001 1/2" Crowfoot...
3	1109 Open End Midget...	2	BC-1702 9/16" Crowfoot...
3	1112 Open End Midget...	2	BC-1703 5/8" Crowfoot...
3	1113 Open End Midget...	2	BC-1003 11/16" Crowfoot...
3	1114 Open End Midget...	2	BD-1212 3/8" Deep Skt...
3	1115 Open End Midget...	2	BD-1214 7/16" Deep Skt...
3	1116 Open End Midget...	2	BD-1216 1/2" Deep Skt...
3	1118 Open End Midget...	2	BD-1218 9/16" Deep Skt...
3	1120 Open End Midget...	2	BD-1220 5/8" Deep Skt...
3	1122 Open End Midget...	2	BD-1222 11/16" Deep Skt...
3	1124 Open End Midget...	2	BD-1224 3/4" Deep Skt...
3	1128 Open End Midget...	2	BD-1226 13/16" Deep Skt...
3	1132 Open End Midget...	1	BD-814 7/16" Sq. Deep...
3	1150 Midget Box...	1	BD-816 1/2" Sq. Deep...
3	1151 Midget Box...	1	BD-818 9/16" Sq. Deep...
3	1152 Midget Box...	1	BD-820 5/8" Sq. Deep...

WILLIAMS' TOOL DISPLAY BOARDS — 24 x 30 INCHES

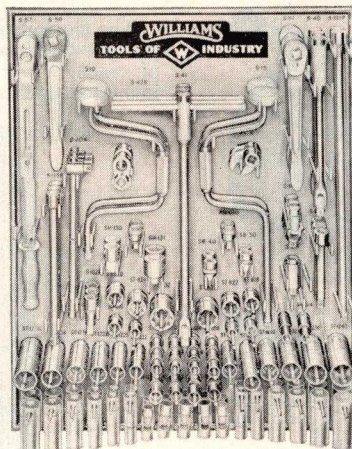
Made of
Selected 3/4" Plywood

Each Panel
Measures 24" x 30"

Trimmed With
Chrome Molding

Easy-to-Read
Numbers

Hooks are
Cadmium Plated



Finished in
Bright Williams' Orange

Individually Packed
in Strong Cartons

Each Display
Holds Complete Selection

Coordinate
Stock and Display

Create More Sales
and Greater Profits

No. 102

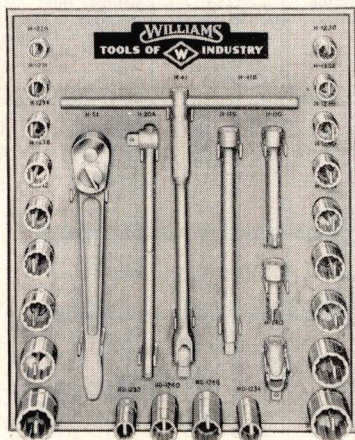
1/2" Drive Standard "Supersockets" and Parts

Weight, Board Only—24 lbs.

Weight, Tools Only—61 lbs.

CONTENTS

Qty. & No.	Description	Qty. & No.	Description	Qty. & No.	Description	Qty. & No.	Description	Qty. & No.	Description	Qty. & No.	Description
1 S-10	Speeder.....	2 S-60B	Stud Remover	3 ST-1212	3/8" 12 Pt. Skt.	2 ST-1228	7/8" 12 Pt. Skt.	1 ST-818	3/16" 8 Ft. Skt.	2 SD-1218	9/16" Deep Skt.
1 S-15	Speeder.....	2 S-102P	Extension....	3 ST-1214	7/16" 12 Pt. Skt.	2 ST-1230	15/16" 12 Pt. Skt.	1 ST-820	5/8" 8 Pt. Skt.	3 SD-1220	5/8" Deep Skt.
2 S-20A	Sliding T Hdle.	2 S-110P	Extension....	3 ST-1216	1/2" 12 Pt. Skt.	2 ST-1231	31/32" 12 Pt. Skt.	1 ST-822	11/16" 8 Pt. Skt.	2 SD-1222	11/16" Deep Skt.
2 SB-30	Screw Dr. Att.	2 S-115P	Extension....	3 ST-1218	9/16" 12 Pt. Skt.	2 ST-1232	1" 12 Pt. Skt.	1 ST-824	3/4" 8 Pt. Skt.	2 SD-1224	3/4" Deep Skt.
2 SB-40	Screw Dr. Att.	1 S-121P	Extension....	3 SF-1218	3/16" Ford Skt.	2 ST-1234	1 1/16" 12 Pt. Skt.	1 ST-828	7/8" 8 Pt. Skt.	3 SD-1226	13/16" Deep Skt.
2 S-40	Flex. Handle..	2 SH-130	Adapter.....	2 ST-1219	1 1/8" 12 Pt. Skt.	2 ST-1236	1 1/8" 12 Pt. Skt.	1 ST-832	1" 8 Pt. Skt.	2 SD-1228	7/8" Deep Skt.
2 S-41	Flex. Handle..	2 SH-131	Adapter.....	2 ST-1220	5/8" 12 Pt. Skt.	2 ST-1238	1 1/8" 12 Pt. Skt.	1 SU-1216	1/2" Universal	2 SD-1228T	7/8" Deep Skt.
2 S-42B	Sliding Bar....	2 S-140	Univ. Joint...	2 ST-1221	21/32" 12 Pt. Skt.	2 ST-1240	1 1/4" 12 Pt. Skt.	1 SU-1218	5/16" Universal	2 SD-1230	1 1/16" Deep Skt.
1 S-50	Ratchet.....	2 SC-8	Adj. Crowfoot	2 ST-1222	1 1/4" 12 Pt. Skt.	1 ST-810	5/16" 8 Pt. Skt.	1 SU-1220	11/16" Universal	2 SD-1232	1" Deep Skt.
3 S-51	Rev. Ratchet..	2 SC-614	Cadillac Skt..	2 ST-1224	3/4" 12 Pt. Skt.	1 ST-812	3/8" 8 Pt. Skt.	1 SU-1222	1 1/16" Universal	2 SD-1234	1 1/16" Deep Skt.
2 S-55	Ratchet Adapt.	2 AS-616	Hollow Ser.Skt	2 ST-1225	15/16" 12 Pt. Skt.	1 ST-814	7/16" 8 Pt. Skt.	1 SU-1224	3/4" Universal	2 SD-1236	1 1/8" Deep Skt.
1 S-57	Torque Wrench	2 AS-618	Hollow Ser.Skt	2 ST-1226	1 1/8" 12 Pt. Skt.	1 ST-816	1/2" 8 Pt. Skt.	2 SD-1216	1/2" Deep Skt.		

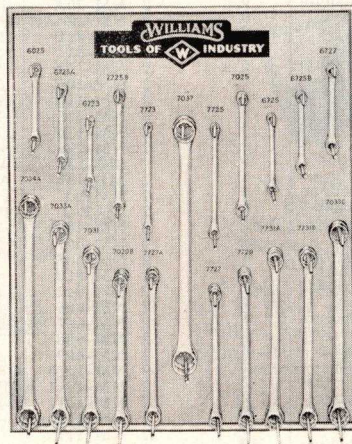


No. 103

3/4" Drive Heavy Duty
"Supersockets" and Parts

Weight, Board Only—19 lbs.

Weight, Tools Only—44.4 lbs.



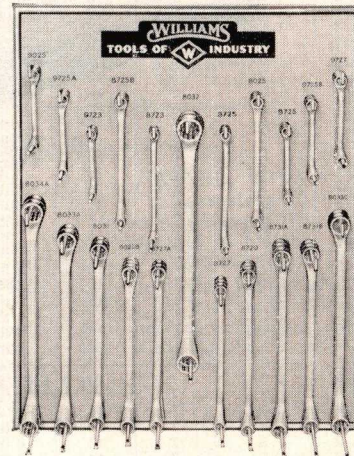
No. 104

15° Angle

Double Offset-Box "Superrenches"

Weight, Board Only—18.8 lbs.

Weight, Tools Only—22 lbs.



No. 105

45° Angle

Double Offset-Box "Superrenches"

Weight, Board Only—18.8 lbs.

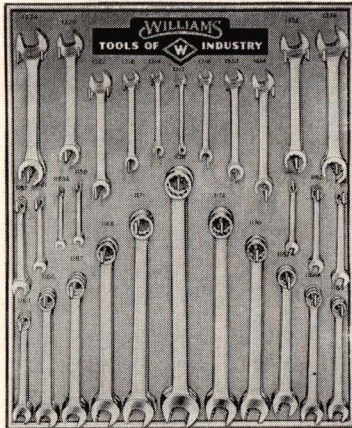
Weight, Tools Only—24.5 lbs.

Qty. & No.	Description	Qty. & No.	Description
1 H-20A	Sliding T Hdle.	1 H-1240	1 1/2" 12Pt.Skt.
1 H-41	Flex. Handle..	1 H-1242	1 3/16" 12Pt.Skt.
1 H-41B	Sliding Bar....	1 H-1244	1 3/8" 12Pt.Skt.
1 H-51	Rev. Ratchet..	1 H-1246	1 1/2" 12Pt.Skt.
1 H-104	Extension....	1 H-1248	1 1/8" 12Pt.Skt.
1 H-110	Extension....	1 H-1252	1 5/8" 12Pt.Skt.
1 H-115	Extension....	1 H-1254	1 11/16" 12Pt.Skt.
1 H-140	Universal Joint	1 H-1256	1 3/4" 12Pt.Skt.
1 H-1228	7/8" 12 Pt. Skt.	1 H-1258	1 13/16" 12Pt.Skt.
1 H-1230	15/16" 12 Pt. Skt.	1 H-1260	1 7/8" 12Pt.Skt.
1 H-1231	31/32" 12 Pt. Skt.	1 H-1264	1 5/8" 12Pt.Skt.
1 H-1232	1" 12 Pt. Skt.	1 HD-1230	1 15/16" Deep Skt.
1 H-1234	1 1/16" 12 Pt. Skt.	1 HD-1234	1 1/16" Deep Skt.
1 H-1236	1 1/8" 12 Pt. Skt.	1 HD-1240	1 1/4" Deep Skt.
1 H-1238	1 1/16" 12 Pt. Skt.	1 HD-1246	1 1/16" Deep Skt.

Quantity & No.	Description	Quantity & No.	Description
3 7723	15° Box 3/8 & 7/16"	2 7033A	15° Box 7/8 & 15/16"
3 7025	15° Box 1/2 & 19/32"	2 7033C	15° Box 15/16 & 1"
3 7725	15° Box 3/16 & 1/2"	2 7034A	15° Box 15/16 & 1 1/16"
3 7725B	15° Box 1/2 & 1/16"	1 7037	15° Box 1 1/16 & 1 1/4"
3 7727	15° Box 3/16 & 5/8"		
3 7727A	15° Box 5/8 & 1/16"	2 6723	15° Short 3/8 & 7/16"
3 7029B	15° Box 1 1/16 & 3/4"	2 6725	15° Short 7/16 & 1/2"
3 7729	15° Box 5/8 & 3/4"	2 6725A	15° Short 7/16 & 1/16"
2 7731A	15° Box 3/4 & 7/8"	2 6725B	15° Short 1/2 & 3/16"
2 7031	15° Box 3/32 & 7/8"	2 6025	15° Short 1/2 & 19/32"
2 7731B	15° Box 1 1/16 & 7/8"	2 6727	15° Short 7/16 & 3/8"

Quantity & No.	Description	Quantity & No.	Description
3 8723	45° Box 3/8 & 7/16"	2 8033A	45° Box 7/8 & 15/16"
3 8725	45° Box 7/16 & 1/2"	2 8033C	45° Box 15/16 & 1"
3 8025	45° Box 1/2 & 19/32"	2 8034A	45° Box 15/16 & 1 1/16"
3 8725B	45° Box 1/2 & 3/16"	1 8037	45° Box 1 1/16 & 1 1/4"
3 8727	45° Box 3/16 & 5/8"		
3 8727A	45° Box 5/8 & 1/16"	2 9723	45° Short 3/8 & 7/16"
3 8729	45° Box 5/8 & 3/4"	2 9725	45° Short 7/16 & 1/2"
3 8029B	45° Box 1 1/16 & 3/4"	2 9725A	45° Short 7/16 & 1/16"
2 8031	45° Box 25/32 & 7/8"	2 9725B	45° Short 1/2 & 3/16"
2 8731A	45° Box 3/4 & 7/8"	2 9025	45° Short 1/2 & 19/32"
2 8731B	45° Box 1 1/16 & 7/8"	2 9727	45° Short 7/16 & 3/8"

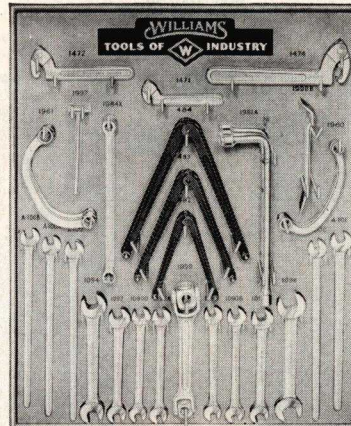
WILLIAMS' TOOL DISPLAY BOARDS — 24 x 30 INCHES



No. 106
Flare Nut and
Open End-Box "Superrenches"
Weight, Board Only—18.5 lbs.
Weight, Tools Only—37.9 lbs.

CONTENTS

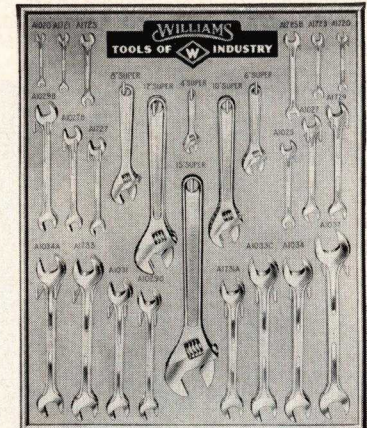
Quantity & No.	Description	Quan. & No.	Description
2 1159	Comb. $\frac{5}{16}$ & $\frac{1}{2}$ "	2 1171	Comb. $\frac{1}{4}$ & $\frac{1}{2}$ "
2 1159A	Comb. $\frac{11}{32}$ & $\frac{1}{2}$ "	2 1172	Comb. $\frac{1}{8}$ & $\frac{1}{2}$ "
3 1160	Comb. $\frac{3}{8}$ & $\frac{1}{2}$ "	2 1173	Comb. $\frac{1}{4}$ & $\frac{1}{2}$ "
3 1161	Comb. $\frac{1}{2}$ & $\frac{1}{2}$ "		
3 1162	Comb. $\frac{1}{2}$ & $\frac{1}{2}$ "	2 1312	Fl. Nut $\frac{3}{8}$ & $\frac{3}{8}$ "
3 1163	Comb. $\frac{1}{2}$ & $\frac{1}{2}$ "	2 1314	Fl. Nut $\frac{1}{2}$ & $\frac{1}{2}$ "
2 1163A	Comb. $\frac{19}{32}$ & $\frac{1}{2}$ "	2 1316	Fl. Nut $\frac{1}{2}$ & $\frac{1}{2}$ "
3 1164	Comb. $\frac{3}{4}$ & $\frac{1}{2}$ "	2 1318	Fl. Nut $\frac{5}{8}$ & $\frac{1}{2}$ "
2 1165	Comb. $\frac{11}{16}$ & $\frac{1}{2}$ "	2 1320	Fl. Nut $\frac{5}{8}$ & $\frac{1}{2}$ "
2 1166	Comb. $\frac{3}{4}$ & $\frac{1}{2}$ "	2 1322	Fl. Nut $\frac{1}{2}$ & $\frac{1}{2}$ "
2 1166A	Comb. $\frac{25}{32}$ & $\frac{1}{2}$ "	2 1324	Fl. Nut $\frac{3}{4}$ & $\frac{1}{2}$ "
2 1167	Comb. $\frac{7}{8}$ & $\frac{1}{2}$ "	2 1328	Fl. Nut $\frac{1}{2}$ & $\frac{1}{2}$ "
2 1167A	Comb. $\frac{13}{16}$ & $\frac{1}{2}$ "	2 1332	Fl. Nut 1 & 1"
2 1168	Comb. $\frac{15}{16}$ & $\frac{1}{2}$ "	2 1334	Fl. Nut $\frac{1}{2}$ & $\frac{1}{2}$ "
2 1170	Comb. 1 & 1"	2 1336	Fl. Nut $\frac{1}{2}$ & $\frac{1}{2}$ "



No. 107
Tappet, Spanner and
Special Automotive "Superrenches"
Weight, Board Only—19 lbs.
Weight, Tools Only—19.5 lbs.

CONTENTS

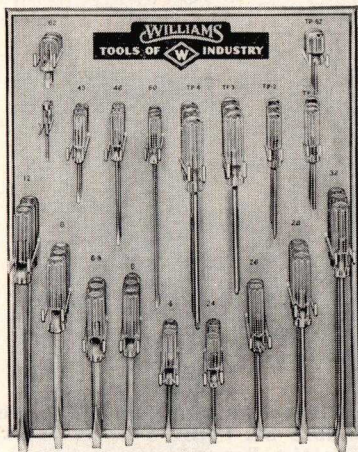
Quantity & No.	Description	Quantity & No.	Description
3 1090	Tappet $\frac{1}{4}$ & $\frac{1}{2}$ "	1 1999	"Multisocket" ..
3 1090A	Tappet $\frac{3}{8}$ & $\frac{1}{2}$ "	1 1997	Brake Wrench..
3 1090D	Tappet $\frac{1}{2}$ & $\frac{1}{2}$ "	2 1960	Starter-Manifold
3 1090G	Tappet $\frac{1}{2}$ & $\frac{1}{2}$ "	2 1961	Starter-Manifold
3 1092	Tappet $\frac{1}{2}$ & $\frac{1}{2}$ "	2 1984X	Ford Brake
3 1092F	Tappet $\frac{5}{8}$ & $\frac{1}{2}$ "	3 1988B	Bendix Brake ...
3 1094	Tappet $\frac{3}{4}$ & $\frac{1}{2}$ "	2 1981A	Ford Conn. Rod
3 1096	Tappet $\frac{15}{16}$ & 1"		
3 1100	Tappet Wr. $\frac{1}{4}$ "	1 1471	Adj. Hook Span.
3 1100A	Tappet Wr. $\frac{1}{2}$ "	1 1472	Adj. Hook Span.
3 1100B	Tappet Wr. $\frac{3}{8}$ "	1 1474	Adj. Hook Span.
3 1100C	Tappet Wr. $\frac{7}{8}$ "		
3 1101	Tappet Wr. $\frac{5}{8}$ "	1 482	Adj. Face Span.
		1 483	Adj. Face Span.
		1 484	Adj. Face Span.



No. 108
Open-End "Superrenches"
and "Superjustables"
Weight, Board Only—18.8 lbs.
Weight, Tools Only—27 lbs.

CONTENTS

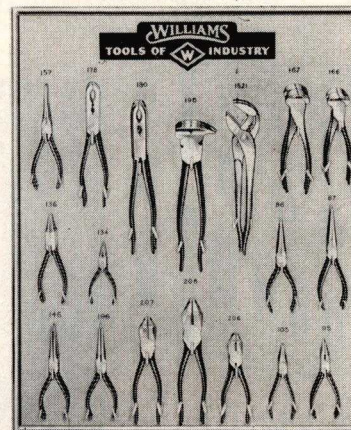
Quantity & No.	Description	Quantity & No.	Description
2 A1020	Op-End $\frac{1}{4}$ & $\frac{5}{16}$ "	2 A1731A	Op-End $\frac{3}{4}$ & $\frac{1}{2}$ "
2 A1720	Op-End $\frac{5}{16}$ & $\frac{1}{2}$ "	2 A1031	Op-End $\frac{25}{32}$ & $\frac{1}{8}$ "
2 A1721	Op-End $\frac{5}{16}$ & $\frac{3}{8}$ "	2 A1033C	Op-End $\frac{15}{16}$ & 1"
2 A1723	Op-End $\frac{3}{8}$ & $\frac{1}{2}$ "	2 A1733	Op-End $\frac{3}{4}$ & 1"
3 A1725	Op-End $\frac{1}{2}$ & $\frac{1}{2}$ "	2 A1034	Op-End $\frac{3}{8}$ & $\frac{1}{16}$ "
3 A1725B	Op-End $\frac{1}{2}$ & $\frac{3}{8}$ "	1 A1034A	Op-End $\frac{15}{16}$ & $\frac{1}{16}$ "
2 A1025	Op-End $\frac{1}{2}$ & $\frac{1}{2}$ "	1 A1037	Op-End $\frac{1}{16}$ & $\frac{1}{4}$ "
3 A1727	Op-End $\frac{5}{8}$ & $\frac{1}{2}$ "	3 4"	"Superjustable"
2 A1027	Op-End $\frac{19}{32}$ & $\frac{1}{16}$ "	3 6"	"Superjustable"
2 A1027B	Op-End $\frac{5}{8}$ & $\frac{1}{16}$ "	3 8"	"Superjustable"
3 A1729	Op-End $\frac{5}{8}$ & $\frac{3}{4}$ "	3 10"	"Superjustable"
3 A1029B	Op-End $\frac{11}{16}$ & $\frac{3}{4}$ "	2 12"	"Superjustable"
2 A1029C	Op-End $\frac{11}{16}$ & $\frac{13}{16}$ "	1 15"	"Superjustable"



No. 109
Regular and Phillips Screw Drivers
Weight, Board Only—20 lbs.
Weight, Tools Only—16.8 lbs.

CONTENTS

Quantity & No.	Description	Quantity & No.	Description
3 4	4" Sq. Blade...	3 43	3" Electricians'
3 6	6" Sq. Blade...	3 46	6" Electricians'
3 6B	6" Sq. Blade...	3 50	10" Electricians'
3 8	8" Sq. Blade...	3 52	Pocket Ser. Dr..
3 12	12" Sq. Blade...	3 62	Regular Stubby..
3 24	4" Rd. Blade...	3 TP-1	3" Phillips
3 26	6" Rd. Blade...	3 TP-2	4" Phillips
3 28	8" Rd. Blade...	3 TP-3	6" Phillips
3 32	12" Rd. Blade...	3 TP-4	8" Phillips
		3 TP-62	Phillips Stubby



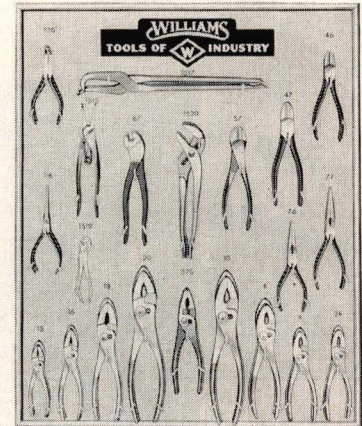
No. 110
Pliers
Weight, Board Only—17.8 lbs.
Weight, Tools Only—25.8 lbs.

CONTENTS

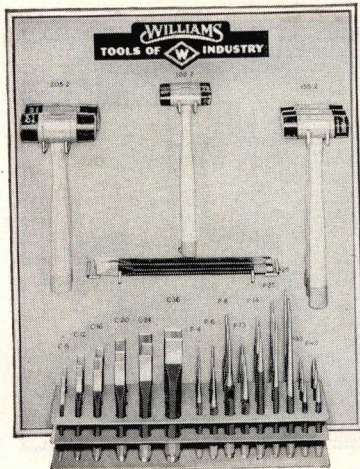
Quantity & No.	Description	Quantity & No.	Description
2 1521	H.D. "Superplier"	2 166	6" End Cutting ..
+2 86	6" Chain Nose...	2 167	7" End Cutting ..
+2 87	7" Chain Nose...	2 178	8" Gas & Burner ..
+2 95	5" Chain Nose...	2 180	10" Gas & Burner ..
+2 105	5" Chain Nose...	2 190	10" Fence Pliers ..
2 134	4" Round Nose...	+2 196	6" Flat Nose....
2 136	6" Round Nose...	2 206	6" Linemen's....
2 146	6" Duck Bill...	2 207	7" Linemen's....
2 157	7" Duck Bill...	2 208	8" Linemen's....

† Without Side Cutter.

† With Side Cutter.



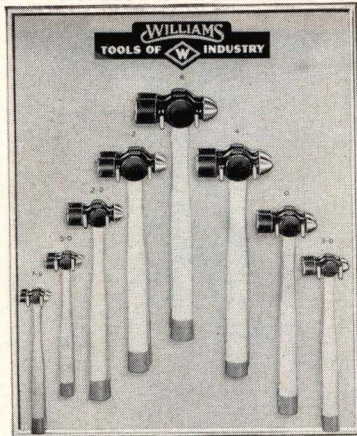
WILLIAMS' TOOL DISPLAY BOARDS — 24 x 30 INCHES



No. 111
Punches, Chisels
and Soft-Face Hammers
Weight, Board Only—23.5 lbs.
Weight, Tools Only—28.4 lbs.

CONTENTS

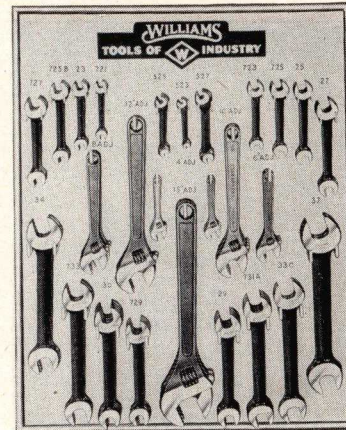
Quantity & No.	Description	Quantity & No.	Description
3 P-4	1/8" Pin Punch...	3 C-8	3/4" Cold Chisel
3 P-6	3/16" Pin Punch...	3 C-12	3/8" Cold Chisel
3 P-8	1/4" Pin Punch...	3 C-16	1/2" Cold Chisel
3 P-13	3/32" Solid Punch...	3 C-20	5/8" Cold Chisel
3 P-14	1/8" Solid Punch...	3 C-24	3/4" Cold Chisel
3 P-25	3/32" Taper Punch	3 C-36	1 1/8" Cold Chisel
3 P-26	3/16" Taper Punch	2 C-422	1 1/16" Riv. Buster
3 P-30	Prick Punch...	2 105-2	8 oz. S. F. Ham'er
3 P-40	Center Punch...	2 155-2	1 1/2 lbs. " "
		2 205-2	2 lb. " "



No. 114
Ball Pein Hammers
Weight, Board Only—16.1 lbs.
Weight, Tools Only—22.3 lbs.

CONTENTS

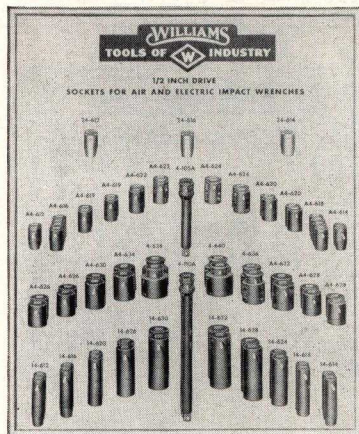
Quantity and No.	Description
2 7-0	2 oz. Ball Pein Hammer
2 5-0	1/4 lb. Ball Pein Hammer
2 3-0	1/2 lb. Ball Pein Hammer
2 2-0	3/4 lb. Ball Pein Hammer
2 0	1 lb. Ball Pein Hammer
2 2	1-1/2 lb. Ball Pein Hammer
2 4	2 lb. Ball Pein Hammer
2 6	2-1/2 lb. Ball Pein Hammer



No. 115
Open-End Carbon Wrenches
and Carbon Adjustable Wrenches
Weight, Board Only—18.8 lbs.
Weight, Tools Only—46 lbs.

CONTENTS

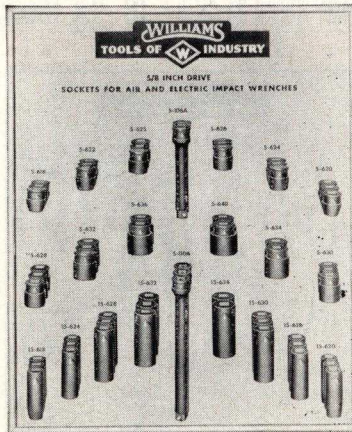
Quan. & No.	Description	Quan. & No.	Description
4 721	Op-End 5/16" & 3/8"	2 33C	Op-End 15/16" & 1"
4 723	Op-End 3/8" & 1/2"	2 34	Op-End 7/8" & 1 1/16"
4 23	Op-End 1/2" & 3/2"	2 37	Op-End 1 1/16" & 1 1/4"
4 725	Op-End 3/8" & 1/2"	4 523	Set Screw 3/16" & 1/4"
4 725B	Op-End 1/2" & 3/4"	4 525	Set Screw 3/4" & 5/16"
4 25	Op-End 3/4" & 1 1/8"	4 527	Set Screw 3/16" & 3/8"
4 727	Op-End 1 1/8" & 1 1/2"	4 4"	Adjustable Wrench
4 27	Op-End 1 1/2" & 1 3/4"	4 6"	Adjustable Wrench
4 729	Op-End 1 3/4" & 2"	4 8"	Adjustable Wrench
4 30	Op-End 2" & 2 1/8"	4 10"	Adjustable Wrench
4 731A	Op-End 2 1/8" & 2 1/2"	2 12"	Adjustable Wrench
2 733	Op-End 2 1/2" & 1"	2 15"	Adjustable Wrench



No. 116
1/2" Drive Impact
"Supersockets" and Extensions
Weight, Board Only—18.8 lbs.
Weight, Tools Only—28.3 lbs.

CONTENTS

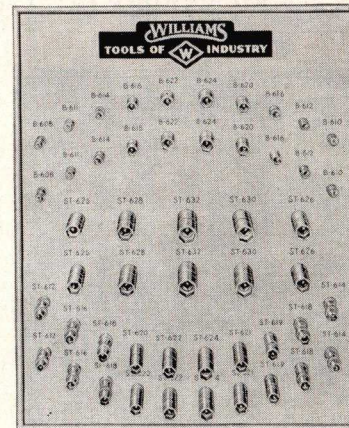
Qty. & No.	Description	Qty. & No.	Description
2 A4-612	3/8" Alt. Hex...	2 14-612	3/8" Bolt Cl. Hex
2 A4-614	1/2" Alt. Hex...	2 14-614	1/2" Bolt Cl. Hex
4 A4-616	3/4" Alt. Hex...	2 14-616	3/4" Bolt Cl. Hex
4 A4-618	1 1/8" Alt. Hex...	2 14-618	1 1/8" Bolt Cl. Hex
4 A4-619	1 1/4" Alt. Hex...	2 14-620	1 1/4" Bolt Cl. Hex
4 A4-620	1 1/2" Alt. Hex...	2 14-622	1 1/2" Bolt Cl. Hex
4 A4-622	1 3/4" Alt. Hex...	2 14-624	1 3/4" Bolt Cl. Hex
4 A4-624	2" Alt. Hex...	2 14-626	2" Bolt Cl. Hex
4 A4-626	2 1/4" Alt. Hex...	2 14-628	2 1/4" Bolt Cl. Hex
4 A4-628	2 3/4" Alt. Hex...	2 14-630	2 3/4" Bolt Cl. Htx
2 A4-630	3" Alt. Hex...	2 14-632	3" Bolt Cl. Hex
2 A4-632	1 1/2" Alt. Hex...	2 24-612	3/8" Self Tapping
2 A4-634	1 1/4" Alt. Hex...	2 24-614	1/2" Self Tapping
2 4-636	1 1/8" Std. Hex...	2 24-616	5/8" Self Tapping
2 4-638	1 1/4" Std. Hex...	2 4-105A	1 1/2" Dr. Ext. 5"
2 4-640	1 1/2" Std. Hex...	2 4-110A	2" Dr. Ext. 10"



No. 117
5/8" Drive Impact
"Supersockets" and Extensions
Weight, Board Only—17.1 lbs.
Weight, Tools Only—36 lbs.

CONTENTS

Qty. & No.	Description	Qty. & No.	Description
3 5-618	3/8" Std. Hex...	2 5-640	1 1/4" Std. Hex ..
3 5-620	1/2" Std. Hex...	3 15-618	3/8" Bolt Cl. Hex
3 5-622	3/4" Std. Hex...	3 15-620	1/2" Bolt Cl. Hex
3 5-624	1 1/8" Std. Hex...	3 15-624	3/4" Bolt Cl. Hex
3 5-625	1 1/4" Std. Hex...	3 15-626	1 1/8" Bolt Cl. Hex
3 5-626	1 1/2" Std. Hex...	3 15-628	1 3/8" Bolt Cl. Hex
3 5-628	1 3/4" Std. Hex...	3 15-630	1 1/2" Bolt Cl. Hex
3 5-630	2" Std. Hex...	3 15-632	1" Bolt Cl. Hex
3 5-632	1 1/2" Std. Hex...	2 15-634	1 1/8" Bolt Cl. Hex
2 5-634	1 1/4" Std. Hex...	3 5-106A	3/8" Dr. Ext. 6"
2 5-636	1 1/8" Std. Hex...	3 5-110A	3/8" Dr. Ext. 10"



No. 118
3/8" Drive Bantam and 1/2" Drive
Standard Six-Point "Supersockets"
Weight, Board Only—16.4 lbs.
Weight, Tools Only—13 lbs.

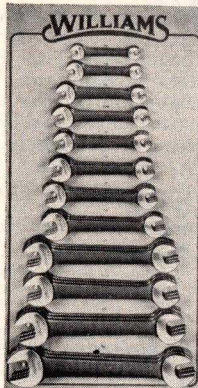
CONTENTS

Qty. & No.	Description	Qty. & No.	Description
4 B-608	3/4" 6-Pt....	4 ST-618	3/16" 6-Pt....
4 B-610	1/2" 6-Pt....	4 *SF-618	3/16" 6-Pt....
4 B-611	1 1/8" 6-Pt....	4 ST-619	1/4" 6-Pt....
4 B-612	3/8" 6-Pt....	4 ST-620	5/8" 6-Pt....
4 B-614	1 1/4" 6-Pt....	4 ST-621	2 1/4" 6-Pt....
4 B-616	1 1/2" 6-Pt....	4 ST-622	1 1/8" 6-Pt....
4 B-618	1 3/4" 6-Pt....	4 ST-624	3/4" 6-Pt....
4 B-620	2" 6-Pt....	4 ST-625	2 3/4" 6-Pt....
4 B-622	2 1/4" 6-Pt....	4 ST-626	1 1/4" 6-Pt....
4 B-624	3" 6-Pt....	4 ST-628	7/8" 6-Pt....
4 ST-612	3/8" 6-Pt....	4 ST-630	1 1/8" 6-Pt....
4 ST-614	1/2" 6-Pt....	4 ST-632	1" 6-Pt....

* All Ford 6, Ford-Mercury V-8, 85 HP, 90 HP and 100 HP Connecting Rods. Use with Torque wrench required on models having "Marsden" self-locking nuts. Not guaranteed because of extra thin walls.

WILLIAMS' WRENCH DISPLAY BOARDS

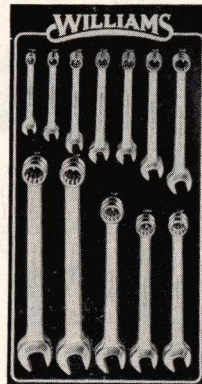
Uniform size and style make possible endless combinations for walls, counters or windows. Set up a complete Wrench Department at no cost. Displays are furnished at cost of tools only. Wrench sizes are the most commonly used and asked for. Each panel measures 1/2" x 12" x 24" except No. 7 which measures 3/4" x 16" x 24". Nos. 1 and 11 are finished in bright Williams orange, all others in rich maroon lacquer.



No. 1
DOUBLE HEAD OPEN-END
CARBON WRENCHES
Total Weight, 22 lbs.

CONTENTS

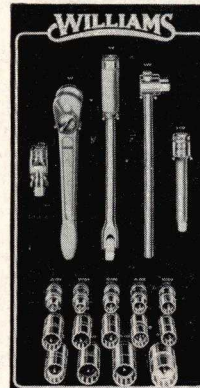
No.	Qty.	Size
721	3	5/16 & 3/8"
723	3	3/8 & 7/16"
725	3	7/16 & 1/2"
725B	3	1/2 & 9/16"
25	3	1/2 & 19/32"
27	3	19/32 & 11/16"
727	3	9/16 & 5/8"
729	3	5/8 & 3/4"
731A	3	3/4 & 7/8"
31	3	25/32 & 7/8"
33C	3	15/16 & 1"
34	3	7/8 & 1-1/16"



No. 2
COMBINATION
OPEN-END BOX
ALLOY "SUPERRENCHES"
Total Weight, 17.5 lbs.

CONTENTS

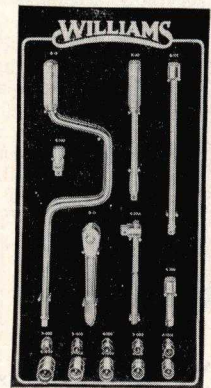
No.	Qty.	Size
1160	3	3/8 & 3/8"
1161	3	7/16 & 7/16"
1162	3	1/2 & 1/2"
1163	3	9/16 & 9/16"
1163A	3	19/32 & 19/32"
1164	3	5/8 & 5/8"
1165	2	11/16 & 11/16"
1166	2	3/4 & 3/4"
1166A	2	25/32 & 25/32"
1167	2	7/8 & 7/8"
1168	2	15/16 & 15/16"
1170	2	1 & 1"



No. 3
STANDARD 1/2" SQUARE DR.
ALLOY "SUPERSOCKETS"
and PARTS
Total Weight, 21.3 lbs.

CONTENTS

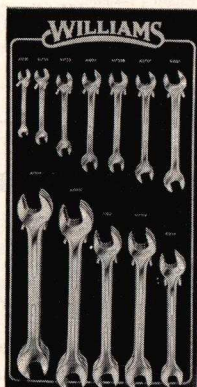
No.	Qty.	Size
S-20A	2	Sliding T Handle
S-40	2	Flex. Handle
S-51	2	Reversible Ratchet
S-110P	2	Extension Bar
S-140	2	Universal Joint
ST-1212	2	3/8"
ST-1214	2	7/16"
ST-1216	2	1/2"
ST-1218	2	9/16"
ST-1219	2	19/32"
ST-1220	2	5/8"
ST-1222	2	11/16"
ST-1224	2	3/4"
ST-1225	2	25/32"
ST-1226	2	13/16"
ST-1228	2	7/8"
ST-1230	2	15/16"
ST-1232	2	1"
ST-1234	2	1-1/16"



No. 4
BANTAM 3/8" SQUARE DR.
ALLOY "SUPERSOCKETS"
and PARTS
Total Weight, 13.5 lbs.

CONTENTS

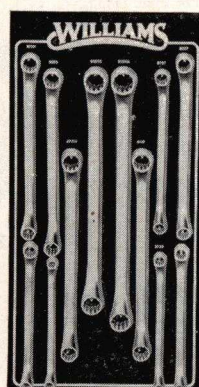
No.	Qty.	Size
B-15	2	Speeder
B-20A	2	Sliding T Handle
B-40	2	Flex. Handle
B-51	2	Reversible Ratchet
B-108	2	Extension Bar
B-115	2	Universal Joint
B-140	2	1/4"
B-608	2	5/16"
B-1210	2	11/32"
B-1211	2	3/8"
B-1212	2	7/16"
B-1214	2	1/2"
B-1216	2	9/16"
B-1218	2	5/8"
B-1220	2	11/16"
B-1222	2	3/4"
B-1224	2	



No. 5
DOUBLE HEAD
OPEN-END
ALLOY "SUPERRENCHES"
Total Weight, 18.4 lbs.

CONTENTS

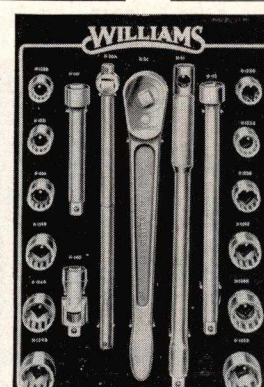
No.	Qty.	Size
A1721	3	5/16 & 3/8"
A1723	3	3/8 & 7/16"
A1725	3	7/16 & 1/2"
A1725B	3	1/2 & 9/16"
A1025	3	1/2 & 19/32"
A1727	3	9/16 & 5/8"
A1027	3	19/32 & 11/16"
A1729	3	5/8 & 3/4"
A1731A	3	3/4 & 7/8"
A1031	3	25/32 & 7/8"
A1033C	3	15/16 & 1"
A1034	3	7/8 & 1-1/16"



No. 6
45° DOUBLE OFFSET BOX
ALLOY "SUPERRENCHES"
Total Weight, 25.9 lbs.

CONTENTS

No.	Qty.	Size
8723	3	3/8 & 7/16"
8725	3	7/16 & 1/2"
8725B	3	1/2 & 9/16"
8325	3	1/2 & 19/32"
8727	3	9/16 & 5/8"
8027	3	11/16 & 19/32"
8729	3	5/8 & 3/4"
8029	3	11/16 & 25/32"
8731A	3	3/4 & 7/8"
8031	3	25/32 & 7/8"
8033C	3	15/16 & 1"
8034A	3	15/16 & 1-1/16"

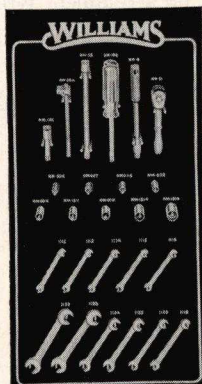


No. 7
HEAVY DUTY 3/4" SQUARE DRIVE
ALLOY "SUPERSOCKETS" and PARTS
Total Weight, 38.5 lbs.

CONTENTS

No.	Qty.	Size	No.	Qty.	Size
H-20A	1	Sliding T Handle	H-1232	1	1"
H-41	1	Flex. Handle	H-1234	1	1-1/16"
H-51	1	Ratchet	H-1236	1	1-1/8"
H-110	1	Extension Bar	H-1240	1	1-1/4"
H-115	1	Extension Bar	H-1242	1	1-5/16"
H-140	1	Universal Joint	H-1244	1	1-3/8"
H-1228	1	7/8"	H-1246	1	1-7/16"
H-1230	1	15/16"	H-1248	1	1-1/2"
H-1231	1	31/32"	H-1252	1	1-5/8"

WILLIAMS' WRENCH DISPLAY BOARDS

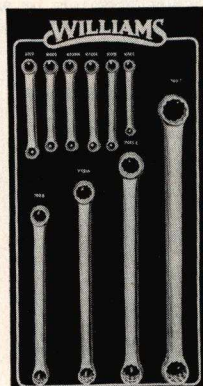


No. 8

MIDGET 1/4" DRIVE
ALLOY "SUPERSOCKETS"
and PARTS
MIDGET "SUPERRENCHES"
Total Weight, 9 lbs.

CONTENTS

No.	Qty.	Size
NM-20A	2	Sliding T Handle
NM-42	2	Flex. Handle
NM-51	2	Rev. Ratchet
NM-102	2	Extension Bar
NM-106	2	Extension Driver
NM-115	2	Extension Bar
NM-606	2	3/16"
NM-607	2	7/32"
NM-608	2	1/4"
NM-609	2	9/32"
NM-1210	2	5/16"
NM-1211	2	11/32"
NM-1212	2	3/8"
NM-1214	2	7/16"
NM-1216	2	1/2"
1112	2	3/16 & 3/16"
1113	2	13/64 & 13/64"
1114	2	7/32 & 7/32"
1115	2	15/64 & 15/64"
1116	2	1/4 & 1/4"
1118	2	9/32 & 9/32"
1120	2	5/16 & 5/16"
1122	2	11/32 & 11/32"
1124	2	3/8 & 3/8"
1128	2	7/16 & 7/16"
1132	2	1/2 & 1/2"

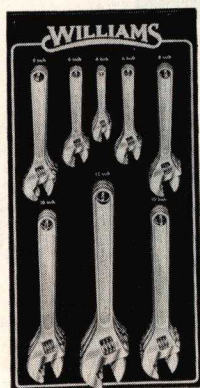


No. 9

15° DOUBLE OFFSET BOX
ALLOY
"SUPERRENCHES"
Total Weight, 20.5 lbs.

CONTENTS

No.	Qty.	Size
6723	3	3/8 & 7/16"
6725	3	7/16 & 1/2"
6725A	3	7/16 & 9/16"
6725B	3	1/2 & 9/16"
6025	3	1/2 & 19/32"
6727	3	9/16 & 5/8"
7029	3	11/16 & 25/32"
7731A	3	3/4 & 7/8"
7033C	3	15/16 & 1"
7037	3	1-1/16 & 1-1/4"

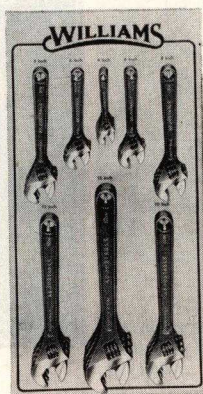


No. 10

ALLOY "SUPERJUSTABLE"
WRENCHES
Total Weight, 19.8 lbs.

CONTENTS

No.	Qty.	Capacity
4 Inch	6	1/2"
6 Inch	6	3/4"
8 Inch	6	15/16"
10 Inch	6	1-1/8"
12 Inch	3	1-5/16"



No. 11

CARBON
ADJUSTABLE WRENCHES
Total Weight, 19.5 lbs.

CONTENTS

No.	Qty.	Capacity
4 Inch	6	1/2"
6 Inch	6	3/4"
8 Inch	6	15/16"
10 Inch	6	1-1/8"
12 Inch	3	1-5/16"

**WILLIAMS' ♦ "VULCAN SUPERIOR"
DROP-FORGED CHAIN PIPE VISE**



The "Vulcan Superior" Vise provides the convenience of "overhead" adjustment. Reversible jaws, too, for longer life.

Wholly made from tough wrought steel. Drop-forged base, jaws, handle and chain-arm. The chains are of the same unsurpassed quality as those of the widely est-

ablished "Vulcan" Chain Pipe Tongs.

Standard Finish—jaws have bright face around orange panel. Packed one in a box.

Extra Parts, Weight Each, Lbs.							
No.	For Pipe, Sizes	Weight Each, Lbs.	Jaws in Pairs	Chain without Arm	Chain Arm Only	Handle with Screw	Adjusting Screw Only
11	1/8 to 2 1/2	7	1.1	1.1	.38	.88	.38
12	1/4 to 4 1/2	15	2.8	2.1	.81	1.6	.81

**WILLIAMS' ♦ "VULCAN"
DROP-FORGED CHAIN PIPE VISE**

For Holding Pipe, Bolts, Bars, Shafts, etc., from 1/8 to 8 inches in Diameter

Adjustment is quickly effected by engaging the projecting rivets of the chain with a series of stepped bosses on the base.

Made entirely of wrought steel; the drop-forged jaws are of saw-tempered steel for file-sharpening. The chains are of same quality as those of our "Vulcan" Chain Pipe Tongs.

All Vises are packed in individual boxes for convenient shelving. Six of Nos. 1 and 2 boxes to a carton.

Standard Finish—jaws have bright face around orange panel.

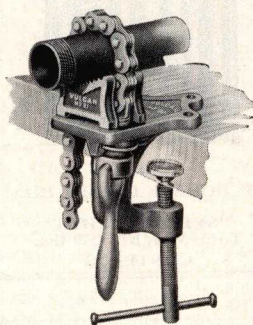
Orders for Chains take Screw also, unless otherwise specified.

Extra Parts, Weight Each, Lbs.									
No.	For Pipe, Sizes	Size, Folded for Packing	Wgt. Each, Lbs.	Jaws in Pairs	Chain with Screw	Chain Screw Only	Handle with Nut	Handle Only	Nut Only
1	1/8 to *2	4x 5x 6	4	.63	1.1	.25	.75	.44	.25
2	1/4 to 4	6x 8x 8	10	2.5	2.4	.50	1.3	.75	.56
3	1/4 to 6	8x 9x11	18	4.9	4.7	.81	1.9	1.	.88
4	1/4 to 8	8x10x12	30	8.4	6.1	.81	1.9	1.	.88

* Will grip pipe fittings not larger in diameter than Std. 2-1/2" pipe (2-7/8" O.D.).

**WILLIAMS' ♦ "VULCAN" CLAMP KIT VISE
No. 21**

For Pipe 1/8 to 2 inches



The clamp member is integral with the base; the clamp-screw, set at a slight forward angle (as illustrated), carries a swivel with a thin V lip projecting from its upper edge.

The drop-forged jaws are saw-tempered for file-sharpening. Chains are of the same superior quality as those in Williams "Vulcan" Tongs. Jaws, chain, nut and handle are interchangeable with similar parts of "Vulcan" Vise No. 1. Packed one in a box for convenient shelving.

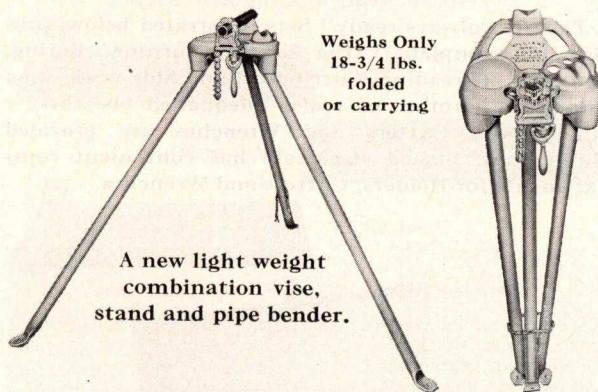
Standard Finish—jaws have bright face around orange panel.

Orders for Chains take Screw also, unless otherwise specified.

Extra Parts, Weight Each, Lbs.							
No.	For Pipe, Sizes	Wgt. Each, Lbs.	Jaws in Pairs	Chain with Screw	Chain Screw Only	Handle with Nut	Clamp Screw & Swivel
21	1/8 to *2	5 3/4	.63	1.1	.25	.75	.25

* Will grip pipe fittings not larger in diameter than Std. 2-1/2" pipe (2-7/8" O.D.).

**WILLIAMS' ♦"VULCAN"
ALUMINUM VISE STAND No. AV-1**



A new light weight
combination vise,
stand and pipe bender.

Weights Only
18-3/4 lbs.
folded
or carrying

Has all the advantages of rigidity and strength found in heavier iron or steel types combined with light weight. There is no sacrifice of efficiency or performance yet weight is reduced nearly 50%.

Base is made from special aluminum alloy which has high tensile and high impact properties. Its heavily reinforced design prevents distortion under severe service. Recess for oil can and handy slots for tools are provided in addition to the "V" pipe support in rear.

Pipe Benders are provided in two sizes. One handles pipe up to 1/2 inch, the other handles pipe up to 3/4 inch.

Legs are 1-1/2" special aluminum alloy tubing. Uspect feet are punched for fastening to floor, if desired. Legs may be folded and tied together with attached chain for easy carrying.

Vise is "Vulcan" No. 1 with all its time tested features as described on Page 48 except it has satin aluminum finish.

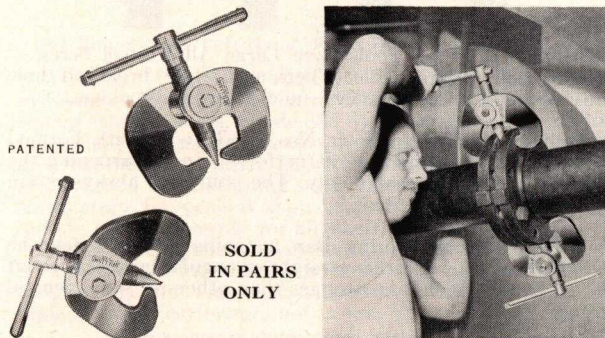
Finish—entire assembly has satin aluminum finish.

All parts of Vise and Stand are interchangeable.

Vise Stand No.	For Pipe Sizes	Wgt., Lbs.		No. 1 "Vulcan" Vise Parts, Wgt, Ea., Lbs.					
		Vise Only	Stand Com- plete	Jaws in Pairs	Chain with Screw	Chain Screw Only	Handle with Nut	Handle Only	Nut Only
AV-1	1/8 to 2"	4	18-3/4	.63	1.1	.25	.75	.44	.25

* Will grip pipe fittings not larger in diameter than Std. 2-1/2" pipe (2-7/8" O.D.).

WILLIAMS' FLANGE-JACKS



PATENTED

SOLD
IN PAIRS
ONLY

Operating with a minimum of effort, FLANGE-JACKS exert tremendous pressure smoothly and evenly. The flanges are parted quickly and held in perfect alignment without damage to flange faces.

There is no shock along the pipe line, no danger from flying wedges and no sparks are caused by hammer blows. FLANGE-JACKS eliminate costly shutdowns, making possible fast, economical repairs in hard-to-get-at locations.

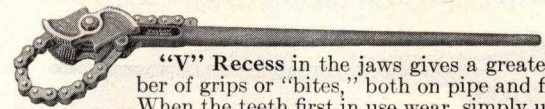
Technical data sheet covering Flange-Jacks capacities for all standard flange faces in various pipe classes and the dimensional limitations of special flanges available on request.

Table below indicates Flange-Jacks capacities for standard raised face flanges in widely used cast iron and steel pipe classes.

No.	Capacity—Standard Raised Face Flanges				Weight Per Pair
	125 lb. Cast Iron	150 lb. Steel	250 lb. Cast Iron	300 lb. Steel	
20	2" to 20"	2" to 20"	1" to 12"	3/4" to 12"	13
30	16" to 48"	18" to 24"	12" to 30"	12" to 24"	45

♦ REGISTERED TRADE MARK

**WILLIAMS' ♦"VULCAN SUPERIOR"
DROP-FORGED PIPE and FITTINGS TONGS**



"V" Recess in the jaws gives a greater number of grips or "bites," both on pipe and fittings. When the teeth first in use wear, simply unscrew through bolt and turn reversible jaws end-for-end.

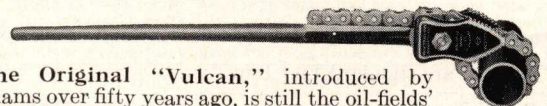
Chains—Either Flat Link, or Cable Chain, (except No. 0). Proof-testing. Each Flat Link Chain is individually "proof-tested" to two-thirds of its breaking strain.

Made from tough wrought steel; all parts interchangeable. Standard finish—jaws have bright face, orange panel.

Number	0	1	2	3	3 1/2	4	5
For Pipe and Fittings, in.	1/8-3/4	1/8-1 1/2	1/4-2 1/2	3/4-4	1-6	1 1/2-8	2-12
Extreme Length, in.	13 3/4	20	27	37	44 1/2	50 1/2	64 1/2
Weight, lbs.	2	5 1/2	10	17	26	34	54
Standard Flat Link Chain, Length, in.	9 1/2	13 1/2	17 1/2	22 1/2	32	40 1/2	55 1/2
Breaking Strain, lbs.	3,600	6,700	9,800	12,500	14,300	15,700	21,800
Extra Chain, Wt., Ea.	.31	1	1.8	3.5	5.3	7.8	14.2
Cable Chain, Length, in.		14 1/2	18	27	33 1/2	42	57
Breaking Strain, lbs.		6,000	9,000	12,500	14,300	15,700	21,800
Extra Chain, Wt., Ea.		1	1.9	4.3	6.2	8.6	14.8
† Extra Jaws, Wt., per pair	.75	1.3	2.3	4	5.5	7.4	10
Extra Bolt and Nut, Wt.	.06	.13	.19	.25	.44	.50	.75

† Extra Jaws supplied in pairs unless otherwise called for. If only a single jaw is wanted, specify Right or Left.

**WILLIAMS' GENUINE ♦"VULCAN"
DROP-FORGED CHAIN PIPE TONGS**



The Original "Vulcan," introduced by Williams over fifty years ago, is still the oil-fields' favorite tongs for general work. Made entirely from tough wrought steel and fully guaranteed.

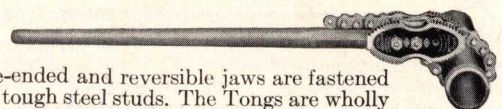
Chains swing from the center and can be used on either side of the jaws, thus reducing wear upon specific teeth.

Proof-testing. Each Flat Link Chain is "proof-tested" to two-thirds of its breaking strain.

Standard finish—jaws have bright face around orange panel.

Number	10	11	12	13	13 1/2	14	15	16
Cap., Size Pipe, in.	1/8-3/4	1/8-1 1/2	1/4-2 1/2	3/4-4	1-6	1 1/2-8	2-12	4-18
Extreme Length, in.	13 3/4	20	27	37	44 1/2	50 1/2	64 1/2	87
Weight, lbs.	2	5 1/2	10	17	24	31	52	137
Flat Standard Chain Length, in.	9 1/2	13 1/2	17 1/2	22 1/2	32	40 1/2	55 1/2	74 1/2
Breaking Strain, lbs.	3,600	6,700	9,800	12,500	14,300	15,700	21,800	40,000
Ex. Chain, Wt. Ea.	.31	1	1.8	3.5	5.3	7.8	14.2	37.6
Cable Chain Length, in.		14 1/2	18	27	33 1/2	42	57	76
Break. Strain, lbs.		6,000	9,000	12,500	14,300	15,700	21,800	40,000
Ex. Chain, Wt. Ea.		1	1.9	4.3	6.2	8.6	14.8	42.6
Ext. Jaws, Wt.—Pr.	.56	1.4	1.6	2.8	3.9	5.1	7.4	19.1
Ext. Bolt & Nut, Wt.	.13	.25	.38	.5	.63	.88	1.2	2.8

**WILLIAMS' IMPROVED ♦"VULCAN"
DROP-FORGED CHAIN PIPE TONGS**



Double-ended and reversible jaws are fastened with two tough steel studs. The Tongs are wholly made of wrought steel and are fully guaranteed.

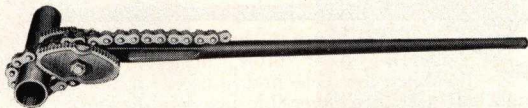
Chains swing from the center and can be used on either side of the jaws, thus reducing wear upon specific teeth.

Proof-Testing. Each Flat Link Chain is "proof-tested" to two-thirds of its breaking strain.

Standard finish—jaws have bright face around orange panel.

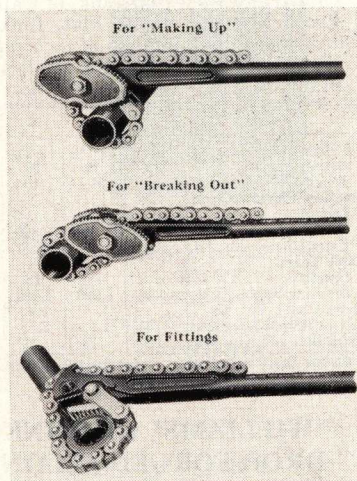
Number	30	31	32	33	33 1/2	34	35
Capacity, Size Pipe, inches.	1/8-3/4	1/8-1 1/2	1/4-2 1/2	3/4-4	1-6	1 1/2-8	2-12
Extreme Length, in.	13 3/4	20	27	37	44 1/2	50 1/2	64 1/2
Weight, lbs.	2	5 1/2	10	17	24	31	52
Flat "Standard" Chain Length, in.	9 1/2	13 1/2	17 1/2	22 1/2	32	40 1/2	55 1/2
Breaking Strain, lbs.	3,600	6,700	9,800	12,500	14,300	15,700	21,800
Extra Std. Chain, Wt. Ea.	.31	1	1.8	3.5	5.3	7.8	14.2
Extra Jaws, Wt., per Pair	.69	1.6	2.3	3.9	4.8	6.3	10.6
Extra Nuts and Studs, Wt.	.06	.13	.25	.31	.38	.5	.63

WILLIAMS' ♦"VULCAN" REVERSIBLE DROP-FORGED CHAIN PIPE TONGS



Without removing the tongs or loosening the chain "Vulcan" Reversible Tongs will turn pipe instantly in either direction. Since removal of the tongs is unnecessary no time is lost in reversing the action.

Outer jaws can be removed to make an efficient fittings tongs for narrow heads and flanges. Jaw removal is accomplished by taking out the single through bolt and self-locking nut used in assembly. These outer jaws are reversible end for end.



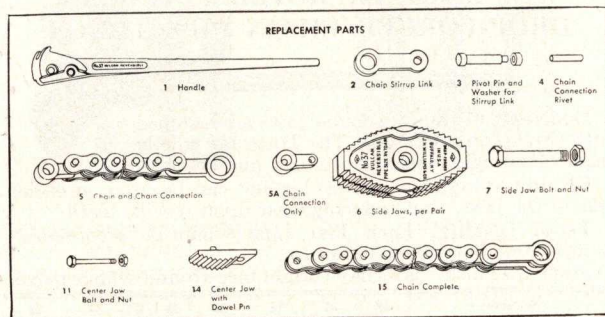
Standard finish—jaws have bright face around orange panel.

Chains are standard Flat Link.

Proof-Testing. To insure proper service, each Flat Link Chain is "proof-tested" in a standard tension machine to two-thirds of its breaking strain listed in table. Each chain so tested is stamped on the drop-forged swing link and to it is attached a leaden seal bearing our trade-mark thus absolutely establishing the safety-factor and reliability of every tong.

Wholly made from tough wrought steel; all parts are interchangeable.

Number	27	37	47	57
For Pipe and Fittings, inches	1/4 to 2-1/2	3/4 to 4	1 to 6	1-1/2 to 8
Extreme Length.....	27	37	44-1/2	50-1/2
Weight, Lbs.....	12.3	19.7	29.3	43
Standard Flat Link Chain				
Length.....	17-1/2	22-1/2	32	40-1/2
Breaking Strain, Lbs. ...	9,800	12,500	14,300	15,700



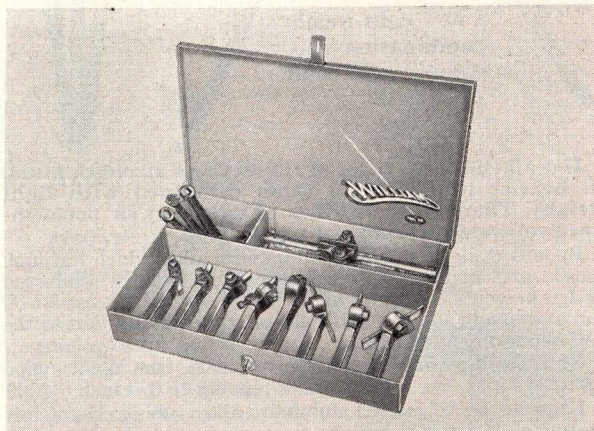
Order replacements by part number and tong size.

No. 5 Chain Replacement includes No. 5-A Chain Connection on one end and connection (not illustrated separately) on other end for "Vulcan" and other makes of single jaw pipe tongs. No. 15 Chain Replacement, with connections as illustrated, fits "Vulcan" Reversible and other make tongs of this type only.

♦ REGISTERED TRADE MARK

WILLIAMS' LATHE TOOL SETS

The Six "always ready" Sets illustrated below, provide for complete Lathe service—Turning, Boring, Knurling, Threading, Cutting-Off and Side work—in a minimum number of tools, unequalled elsewhere—High Speed Cutters and Wrenches are provided throughout. Strong steel case has convenient compartments for Holders, Cutters and Wrenches.



Williams Knurling-Tools Nos. 00-K to 2-K have self-centering heads, with ONE pair of Knurls for fine, medium, or coarse work. Unless otherwise specified, "Diamond" Pattern, Medium Knurls will be supplied.

ONE Williams Holder takes BOTH cutting-off and side blades. A tool that performs both classes of work by the mere substitution of suitable cutters, tells its own story of economy. Both Cutting-off and Side Blades are furnished.

Each Williams Boring-Tool takes SIX or more sizes of Bars WITHOUT using bushings. ONE tool holds MANY Bars. Two styles of Bars—"Sleeve" as illustrated and "Plain" at lower price.

Williams Turning-Tools have Large Alloy Steel Screw—heat-treated, unbreakable. Their accurately broached hole provides rigid seat for cutter—no chatter, no breakage.

Williams Threading-Tools Nos. 00-T to 52 with Formed Cutter assure threads that fit perfectly. In resharpening the Cutter, grind its top edge only. The point will always retain the proper form and angle.

Williams Sleeve Boring-Bar fastening provides for the rapid adjustment of either straight or angular cutters without use of extra parts. It is stronger than others of same general design.

Be careful to measure the opening in tool-post before ordering Sets. Due to a considerable variation in the proportions of lathes as furnished by different manufacturers, it is impossible to state definitely the "swing" of lathe best adapted to a given size Tool Holder.

WILLIAMS' TOOL HOLDERS IN SETS														Qty. of Tools in Set	Wt. Ea., Lbs.
Set No.	For Lathes of Approx. Swing Inches	Turning Tools			Cutting-off and Side Tools			Thrd- ing Tool No.	Bor- ing Tool No.	Knur- ling Tool No.					
		Strgt. Shank No.	Offset Shank		Strgt. Shank No.	Offset Shank									
			R.H. No.	L.H. No.		R.H. No.	L.H. No.								
00A	7 to 10	00-S	00-R	00-L	19	29-R	29-L	00-T	00-B	00-K	9	5.6			
0A	10 to 12	0-S	0-R	0-L	20	30-R	30-L	50	3	0-K	9	8.6			
1A	14 to 16	1-S	1-R	1-L	21	31-R	31-L	51	9	1-K	9	16.			
2A	16 to 18	2-S	2-R	2-L	22	32-R	32-L	52	10	2-K	9	25.			
*3	18 to 20	3-S	3-R	3-L	23	33-R	33-L	...	11	...	7	34.5			
*4	24 to 36	4-S	4-R	4-L	24	34-R	34-L	...	...	...	6	32.

* Metal case is not supplied with Sets 3 and 4.

WILLIAMS' CARBIDE TURNING-TOOL HOLDERS With Straight and Offset Shanks



Furnished with Wrench but without Cutter

In these Tools, the Cutter is held parallel to the shank. Consequently, Cutters can be so ground as to provide maximum support for the cutting edge. This feature, plus the extremely rigid Holder, is the recognized basis for the best performance of cemented Carbide Cutters.

Holders are broached for square Carbide Cutters, but are supplied WITHOUT CUTTERS.

Williams Carbide Tipped Cutters, for use with the above holders, are available in two grades and four standard shapes of tips. See full description below.

Straight Shank	Number		Holder, Size	Cutter Size, Square	For Lathes of Approx. Swing, Inches	Wgt. Each, Lbs.
	Right Hand	Left Hand				
T-0-S	T-0-R	T-0-L	3/8 x 15/16 x 6	1/4	9 to 10	.71
T-1-S	T-1-R	T-1-L	1/2 x 1 1/4 x 7	5/16	11 to 14	1.5
T-2-S	T-2-R	T-2-L	5/8 x 1 1/2 x 8	3/8	14 to 16	2.4
T-3-S	T-3-R	T-3-L	3/4 x 1 3/4 x 9	7/16	16	3.7
T-4-S	T-4-R	T-4-L	7/8 x 1 7/8 x 10	1/2	18	5.
T-5-S	T-5-R	T-5-L	1 x 2 1/8 x 12	5/8	20 to 24	8.2

WILLIAMS' CARBIDE TIPPED TURNING CUTTER BITS With Square Shanks



80° Round Nose Left Hand Right Hand Square Nose

Williams CARBIDE TIPPED Turning Cutter Bits are available in four standard cutter shapes and two grades to fit square shank holders. Grade 883 with shanks lacquered Gray are designed for machining cast iron, brass, bronze, aluminum and non-metallics. Grade 78B with shanks lacquered Orange are designed for machining steel. These grades will be found satisfactory for general shop use; Gray for all non-ferrous metals, etc. and Orange for all steels.

These firmly cemented carbide tips are finely ground ready for use and are individually covered with a protective ethyl cellulose sheath. This sheath is easily removed and can be replaced when cutters are not in use.

Please specify Grade desired when ordering:
Gray for Cast Iron, etc., Orange for Steel.

Right Hand		Left Hand		SQUARE SHANK TURNING CUTTERS			
New No.	Old No.	New No.	Old No.	Shank Size	Tip Size	Weight, Each	Std. Pkg.
AR-4	M-41	AL-4	M-71	1/4 x 1/4 x 2 1/4	3/32x3/16x5/16	.03	6
AR-5	M-42	AL-5	M-72	5/16x5/16x2 1/4	3/32x1/4 x 1/2	.06	6
AR-6	M-43	AL-6	M-73	3/8 x 3/8 x 2 1/2	3/32x1/4 x 1/2	.07	6
AR-7	M-44	AL-7	M-74	7/16x7/16x3	3/32x1/4 x 1/2	.16	4
AR-8	M-45	AL-8	M-75	1/2 x 1/2 x 3 1/2	1/8 x 5/16x5/8	.25	4
AR-10	M-47	AL-10	M-77	5/8 x 5/8 x 4	5/32x3/8 x 3/4	.44	4
Square Nose		80° Rd. Nose		Shank Size	Tip Size	Weight, Each	Std. Pkg.
New No.	Old No.	New No.	Old No.	Shank Size	Tip Size	Weight, Each	Std. Pkg.
C-4	M-11	D-4	M-121	1/4 x 1/4 x 2 1/4	1/16x1/4 x 5/16	.03	6
C-5	M-12	D-5	M-122	5/16x5/16x2 1/4	3/32x5/16x3/8	.06	6
C-6	M-13			3/8 x 3/8 x 2 1/2	3/32x3/8 x 3/8	.07	6
		D-6	M-123	3/8 x 3/8 x 2 1/2	3/32x3/8 x 1/2	.07	6
C-7	M-14	D-7	M-124	7/16x7/16x3	3/32x7/16x1/2	.16	4
C-8	M-15			1/2 x 1/2 x 3 1/2	1/8 x 1/2 x 1/2	.25	4
		D-8	M-125	1/2 x 1/2 x 3 1/2	1/8 x 1/2 x 9/16	.25	4
C-10	M-17	D-10	M-127	5/8 x 5/8 x 4	5/32x5/8 x 5/8	.44	4

WILLIAMS' CARBIDE TURNING-TOOL HOLDER SETS In the Metal Case with the Convenient Sliding and Removable Cutter Bit Tray



All sets contain three Carbide Turning-Tool Holders, eight Carbide Tipped Cutter Bits, and one wrench.

In addition to the three holders, each set contains eight Carbide Tipped Cutter Bits—four Grade 883 with shanks lacquered gray for non-ferrous metals and four Grade 78B with shanks lacquered orange for steel. Both grades are furnished with one each Right Hand, Left

Hand, Square Nose and 80° Round Nose Cutters.

WILLIAMS' CARBIDE TOOL HOLDERS IN SETS

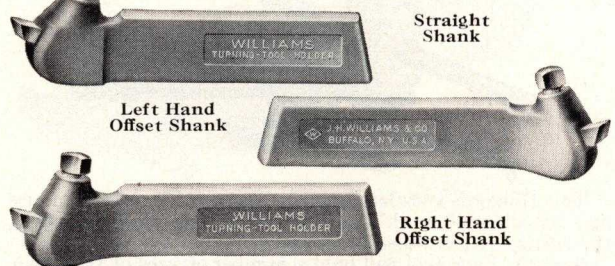
Set No.	For Lathes of Approx. *Swing Inches	Carbide Turning Tools			Size of Holder Shank	Cutter Size Square Inches	Wgt. Each, Lbs.
		Strgt. Shank No.	Offset Right Hand No.	Offset Left Hand No.			
M-0A	10 to 12	T-0-S	T-0-R	T-0-L	3/8x15/16	1/4	3.1
M-1A	14 to 16	T-1-S	T-1-R	T-1-L	1/2x1-1/4	5/16	5.8
M-2A	16 to 18	T-2-S	T-2-R	T-2-L	5/8x1-1/2	3/8	9.2
M-3A	18 to 20	T-3-S	T-3-R	T-3-L	3/4x1-3/4	7/16	13.3
M-4A	24 to 36	T-4-S	T-4-R	T-4-L	7/8x1-7/8	1/2	18.9

* Be careful to measure the opening in tool-post before ordering Sets. Due to a considerable variation in the proportion of lathes as furnished by different manufacturers, it is impossible to state definitely the "swing" of lathe best adapted to a given size Tool Holder.

Carbide Tipped Turning Cutter Bits

Grade 883 Gray Shanks				Grade 78B Orange Shanks			
Right Hand No.	Left Hand No.	Square Nose No.	80° Rd. Nose No.	Right Hand No.	Left Hand No.	Square Nose No.	80° Rd. Nose No.
AR-4	AL-4	C-4	D-4	AR-4	AL-4	C-4	D-4
AR-5	AL-5	C-5	D-5	AR-5	AL-5	C-5	D-5
AR-6	AL-6	C-6	D-6	AR-6	AL-6	C-6	D-6
AR-7	AL-7	C-7	D-7	AR-7	AL-7	C-7	D-7
AR-8	AL-8	C-8	D-8	AR-8	AL-8	C-8	D-8
AR-10	AL-10	C-10	D-10	AR-10	AL-10	C-10	D-10

WILLIAMS' TURNING-TOOL HOLDERS With Straight and Offset Shanks



Furnished with Cutter and Wrench

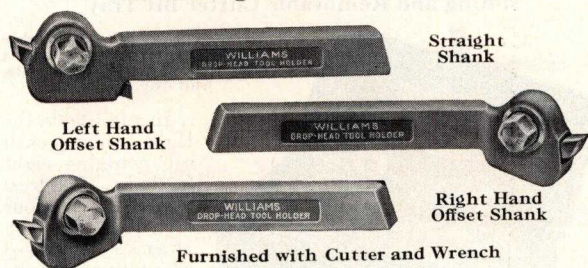
Holders have nose chamfered and are specially heat-treated and hardened. The cutter-holding channel provides a true and rigid seat for the cutter and assures a chatter-proof tool. No breaking of high speed Steel bits. Alloy steel Set Screws are accurately machined, heat-treated and hardened.

High Speed Cutters are furnished in a "diamond-point" form that requires a minimum of grinding.

Straight Shank	Number		Holder, Size	Cutter Size, Square	For Lathes of Approx. Swing Inches	Wgt. Each, Lbs.
	Offset Shank					
	Right Hand	Left Hand				
000-S	000-R	000-L	5/16x 1/2x 4	3/16	6 to 7	.31
00-S	00-R	00-L	5/16x 3/4x 4 1/2	3/16	7 to 10	.44
0-S	0-R	0-L	3/8 x 7/8x 5	1/4	10 to 12	.67
1-S	1-R	1-L	1/2 x 1 1/8x 6	5/16	14 to 16	1.3
2-S	2-R	2-L	5/8 x 1 3/8x 7	3/8	16 to 18	2.1
3-S	3-R	3-L	3/4 x 1 5/8x 8	7/16	18 to 20	3.3
4-S	4-R	4-L	7/8 x 1 3/4x 9	1/2	24 to 36	4.8
5-S	5-R	5-L	1 x 2 x 11	5/8	.....	7.7
6-S	6-R	6-L	1 1/4x2 1/4x13	3/4	.....	12.2

WILLIAMS' DROP-HEAD TURNING-TOOL HOLDERS

With Straight and Offset Shanks



Furnished with Cutter and Wrench

Designed for use on lathes with clamp-tool rests and low centers, and excellently adapted to shaper and planer work.

The cutter-holding channel is unusually accurate. It provides an absolutely true and rigid seat for the cutter and assures a chatter-proof tool. No breaking of high speed steel bits.

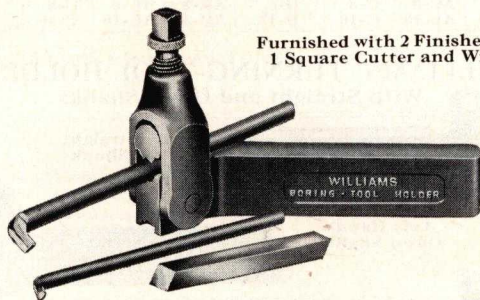
The Cam-fastening is always rapid and positive—the greater the pressure the tighter the lock. It offers full freedom for operation without removal of Holder from tool post, and imposes no obstruction to cutting facilities.

The "diamond-point" form in which the High Speed Cutters are furnished requires the minimum of grinding.

Straight Shank		Offset Shank				Holder, Size	Cutter Size, Square	Height from Bottom of Shank to Cutter Point	Wt. Ea., Lbs.
		Right Hand		Left Hand					
		New No.	Old No.	New No.	Old No.				
100-S	0200-S	100-R	0200-R	100-L	0200-L	$\frac{3}{16}$ x $\frac{3}{16}$ x 6	3/16	9/16	.56
101-S	200-S	101-R	200-R	101-L	200-L	$\frac{9}{16}$ x $1\frac{1}{4}$ x $6\frac{7}{8}$	1/4	11/16	1.
201-S	201-S	201-R	201-R	201-L	201-L	$\frac{3}{4}$ x $\frac{7}{8}$ x $7\frac{7}{8}$	5/16	13/16	1.8
102-S	202-S	102-R	202-R	102-L	202-L	$\frac{7}{8}$ x 1 x $8\frac{7}{8}$	3/8	15/16	2.8
103-S	204-S	103-R	204-R	103-L	204-L	$1\frac{1}{8}$ x $1\frac{1}{4}$ x 11	1/2	1 3/16	5.4

WILLIAMS' LIGHT BORING-TOOL HOLDERS

For Small, Light Boring, Turning, Etc.



Furnished with 2 Finished Bars, 1 Square Cutter and Wrench

This Holder is very handy and economical for tool room use and for all small work—not only in boring small diameters, threading, etc., but also in turning.

Boring. Each tool will hold a number of sizes of Bars; two, varying 1/8" in diameter, are supplied with each Holder. The solid Bars are High Speed Steel, carefully hardened and ground, ready for use.

Turning. The Holder, with offset shank, is reversible for right and left hand work. The self-adjusting gib allows the yoke to clear the end of the Holder. A hardened, High Speed Steel square Cutter with ends beveled to a "diamond point" for easy grinding to desired form, is supplied with each tool.

No.	Holder Size Shank	With Each Holder		For Lathes of Approx. Swing Inches	Wgt. Each, Lbs.
		Two Bars High Speed Steel, Diameter	One High Speed Square Cutter		
15	3/8 x 3/4 x 5	1/8 & 1/4	1/4	9 to 10	.88
16	1/2 x 1 x 5 3/4	3/16 & 5/16	5/16	11 to 14	1.6
17	5/8 x 1 1/4 x 6 3/4	1/4 & 3/8	3/8	14 to 16	2.8
18	3/4 x 1 1/2 x 7 1/2	5/16 & 7/16	7/16	16	4.6

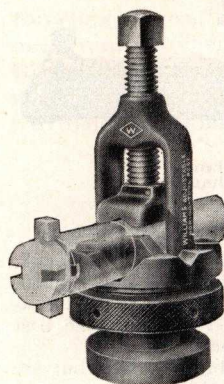
EXTRA BORING BARS

Size	1/8 x 4	3/16 x 4-1/2	1/4 x 5	5/16 x 6	3/8 x 7	7/16 x 8
For Holders	15 & 16	15 to 17	15 to 17	15 to 18	16 to 18	17 & 18

WILLIAMS' ADJUSTABLE BORING-TOOL POSTS

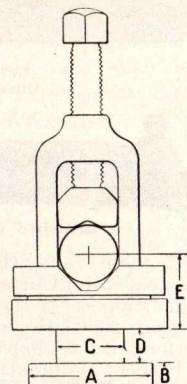
For Many Sizes of Bars

Furnished with either Sleeve or Plain Bar, 1 each 45° and 90° Cutter and 2 Wrenches



Each Post accommodates a wide range of Bars; commercial sizes of bar steel are adaptable for either Bars or Cutters without machining.

The height of the Bar is easily and quickly adjusted—a turn of the Knurled Ring will raise or lower the base on which the Bar rests; tightening



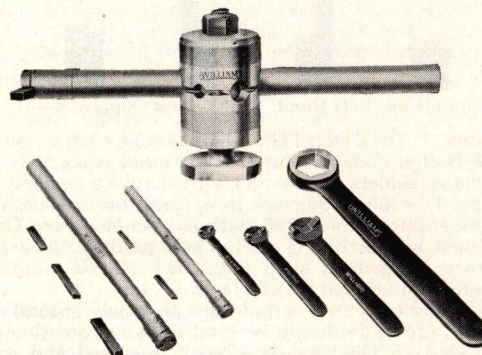
the Set Screw in the head of the Post then locks the whole device instantly, giving an extremely rigid tool. If Post is desired *without* the Bar, deduct price for standard size Bar.

Standard size Sleeve Bar will be furnished, unless otherwise specified

Number	2	3	4	5
Post—Length over all, without Screw	6 5/8	7 5/8	9 1/8	11 1/8
† "T" Slot Flange:				
A Diameter	3	3 1/2	4 1/4	5
B Thickness	5/8	3/4	7/8	1 1/16
† "T" Slot Neck:				
C Diameter	1 5/8	1 3/4	2	2 1/4
D Length	3/4	13/16	1	1 1/4
E Center Height	1 13/16	1 7/8	2 3/8	2 3/4
Post Capacity for Bars—Size	1/2 to 1 5/16	1/2 to 1 1/2	5/8 to 1 13/16	3/4 to 2 1/4
Standard Bar—Size	1 5/16	1 1/2	1 13/16	2 1/4
Weight Each, Lbs., with Sleeve Bar, H S Cutters	15.	24.1	39.5	69.1

† The "T" Slot Flange and Neck are furnished large to allow for fitting to individual machines. For special finishing to specified dimensions, an extra net charge for each Post will be made.

WILLIAMS' 3-BAR BORING TOOLS



Each Holder accommodates three sizes of Bars. Speedy changes can be made by a slight turn of the nut which releases or secures both Bar and Holder instantly. Speeds and feeds can be increased since this Holder allows the operator to use the strongest bar possible for each individual job.

Williams' 3-Bar Boring Tools are packed complete in a separate box, each set including Holder; three Sleeve Bars each with one 45° and one 90° high speed cutter and wrench; and one wrench for Holder nut.

No.	For Lathes Swing In.	Diameter Bars	Length of Bars	Size Cutters, Square	Weight Each, Lbs.
0-BB	8 to 10	3/8, 1/2, 3/4	7, 7 7/8, 11	* 3/16, 1/4	5.2
1-B	12 to 16	1/2, 3/4, 1 1/8	7 7/8, 11, 16	3/16, 1/4, 3/8	18.
2-B	16 to 18	3/8, 1/2, 5/8, 1 1/4	9 1/8, 13 1/4, 19	3/16, 1/4, 3/8	25.9
3-B	20 to 22	3/4, 1 1/8, 1 1/2	11, 16, 23 1/4	1/4, 3/8, 7/16	42.4
4-B	24 to 32	1 1/8, 1 1/2, 1 3/4	13 1/4, 19, 27 1/4	5/16, 3/8, 1/2	68.

* 3/8 x 7" Solid Bar as listed under "Extra Boring Bars" on this page.
† The "T" Slot Flange and Neck are furnished large to allow for fitting to individual machines. For special finishing to specified dimensions, an extra net charge for each Post will be made.

DROP - FORGINGS AND WILLIAMS DROP - FORGED TOOLS

WILLIAMS' BORING-TOOL HOLDERS



Sleeves or bushings are unnecessary for Bars of various sizes. Sleeve-bar fastening provides for rapid adjustment of straight or angular Cutters. Plain Bar provides for use of Straight or Angular Cutters.

Standard size Sleeve Bar will be furnished unless otherwise specified

New No.	Old No.	Holder, Size	Holder Cap. for Bars, Size Diam.	Std. Bar, Size Diameter	For Lathes Approx. Swing In.	Wgt. Each, Lbs.
00B	080	5/16 x 3/4	3/16 to 1/2	1/2	6 to 8	1.2
8	80	3/8 x 7/8	1/4 to 5/8	5/8	9 to 10	2.
9	81	1/2 x 1 1/8	1/4 to 3/4	3/4	11 to 14	3.8
10	82	5/8 x 1 3/8	3/8 to 15/16	15/16	14 to 16	6.6
11	83	3/4 x 1 5/8	1/2 to 1 1/8	1 1/8	16	11.
12	...	7/8 x 1 3/4	1 5/16	1 5/16	18	16.

BORING-BARS AND CUTTERS

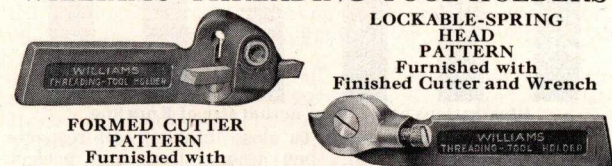
For Boring-Tool Holders and Adjust. Boring-Tool Posts



Furnished with Two Cutters and Wrench

Boring-Bars, Approximate Size and Number						Cutters	
Sleeve			Plain			Size Square and Length	For Use at Angles of
No.	Size	Wgt. Each	No.	Size	Wgt. Each		
0B	1/2 x 7 5/8	.45	0-B-X	1/2 x 8 1/8	.44	00B-11	3/16x1 90°
8	5/8 x 9 1/8	.91	08-X	5/8 x 10 1/8	.88	8-11	3/16x1 1/2 45°
9	3/4 x 11	1.5	09-X	3/4x12 1/8	1.5	9-11	3/16x1 1/2 90°
10	15/16x13 1/4	2.9	010-X	15/16x14 1/8	2.8	10-11	1/4 x1 1/4 45°
11	1 1/8 x 16	4.9	011-X	1 1/8 x 16 3/4	4.8	11	5/16x2 1/2 45°
12	1 5/16x19	7.6	012-X	1 5/16x20	7.5	12	3/8 x1 7/8 90°
13	1 1/2 x 23 1/4	12.1	013-X	1 1/2 x 23 1/2	12.		3/8 x2 1/8 45°
14	1 13/16x27 1/4	20.4	014-X	1 13/16x28	20.6		3/8 x3 1/4 45°
15	2 1/4 x 33	38.8	015-X	2 1/4 x 34	38.8		7/16x2 1/4 90°
							7/16x3 3/8 45°
							1/2 x2 5/8 90°
							1/2 x4 45°
							5/8 x3 1/8 90°
							5/8 x4 3/4 45°

WILLIAMS' THREADING-TOOL HOLDERS



FORMED CUTTER PATTERN
Furnished with
Finished Cutter and Wrench

LOCKABLE-SPRING
HEAD
PATTERN
Furnished with
Finished Cutter and Wrench

LOCKABLE-SPRING PATTERN

For fine and coarse threading. Nut provides for rigid backing required for heavy cuts; when loosened, Holder becomes a spring-tool for finishing work. Equally efficient as a Turning-tool. Each end of H. S. Cutter is ground, the "V" point forming either an angle of 60° for U. S., or 55° for Whitworth Std. threads.

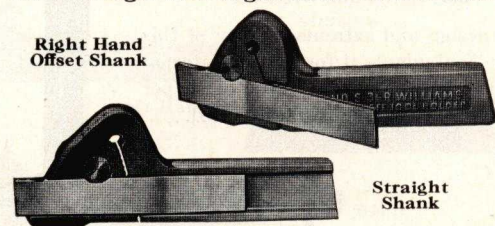
FORMED-CUTTER PATTERN

In re-sharpening the Cutter, it is necessary to grind its top edge only. The point will always retain proper form and angle. H. S. Cutter is ground to an included angle of 60°, backed off for proper clearance. Rear, flat edge is eccentrically formed; hardened stop screw provides accurate adjustment.

New No.	Old No.	Holder, Size	Cutter, Size Square	For Lathes of Approx. Swing Inches	Wgt. Each, Lbs.
LOCKABLE-SPRING PATTERN					
S-50	.....	3/8 x 7/8 x 5 1/4	1/4	10 to 12	.75
S-51	.....	1/2 x 1 1/8 x 6	5/16	14 to 16	1.5
S-52	.....	5/8 x 1 3/8 x 7	3/8	16 to 18	2.5
FORMED-CUTTER PATTERN					
00-T	C-050	5/16 x 3/4 x 5	Formed	7 to 10	.61
50	C-50	3/8 x 7/8 x 5	Formed	10 to 12	.8
51	C-51	1/2 x 1 1/8 x 5 3/4	Formed	14 to 16	1.3
52	C-52	5/8 x 1 3/8 x 7	Formed	16 to 18	2.3
53	.....	3/4 x 1 5/8 x 8	Formed	18 to 20	3.3

WILLIAMS' SPRING CUTTING-OFF TOOL HOLDERS

With Straight and Right Hand Offset Shanks



Furnished with Finished Cutter and Wrench

Due to the "goose-neck" form of the Holder, the Cutter Blade is relieved of excess pressure; no chattering, no "climbing" of the work on the tool—the real cause of nearly all breakage of cutting-off tools. Particularly efficient with automatic feed.

The cam-fastening is always rapid and positive—the greater the pressure the tighter the lock. It offers full freedom for operation without removal of Holder from tool post.

Cutter Blades are H.S. Steel, hardened and ground on both ends ready for use. By reversing blade end for end it can be used in Left or Right Hand Offset Shanks. They are interchangeable in Holders of corresponding size listed below.

Cut-off Blades are interchangeable in other std. Holders.

Straight Shank Holders will be furnished, unless otherwise specified

Number				Holder, Size	Cutter Blades, High Speed Steel, Finished Size	For Lathes of Approx. Swing Inches	Wt. Ea., Lbs.
Straight Shank		Offset Shank Right Hand					
New No.	Old No.	New No.	Old No.				
		S-30-RA	NS-30-RA	3/8x 13/16	3/32x5/8	9 to 10	.84
S-20	NS-20	S-30-R	NS-30-R	3/8x 31/32	3/32x5/8	9 to 10	.85
S-21	NS-21	S-31-R	NS-31-R	1/2x1 3/16	1/8 x3/4	11 to 14	1.6
S-22	NS-22	S-32-R	NS-32-R	5/8x1 3/8	1/8 x7/8	14 to 16	2.6
S-23	NS-23	S-33-R	NS-33-R	3/4x1 5/8	3/16x1	16	4.1

WILLIAMS' CUTTING-OFF AND SIDE-TOOL HOLDERS



Furnished with Finished Cutter and Wrench

One Holder takes both Cutting-off and Side Blades. The Cam-fastening is always rapid and positive—the greater the pressure the tighter the lock. It offers full freedom for operation without removal of Holder from tool post.

The Cutter Blades are H.S. Steel, hardened and ground on both ends ready for use. By reversing blade end for end it can be used in either Left or Right Hand Offset Shanks. They are interchangeable in Holders of corresponding size listed above.

These Cut-off Blades (not Side) are interchangeable in other standard Holders.

Cutting-off Blade will be furnished, unless otherwise specified.

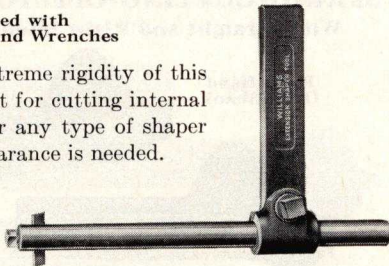
Number			Holder, Size	Cutter Blades, High Speed Steel, Finished Size		For Lathes of Approx. Swing Inches	Wt. Ea., Lbs.
Strght. Shank Right Hand	Offset Shank			Cutting-Off Blade	Side Blade		
	Right Hand	Left Hand					
19	29-R	29-L	5/16x 13/16	3/32x 1/2	1/8 x 1/2	6 to 8	.47
20	30-R	30-L	3/8 x 31/32	3/32x 5/8	5/32x 5/8	9 to 10	.73
21	31-R	31-L	1/2 x 3/16	1/8 x 3/4	3/16x 3/4	11 to 14	1.4
22	32-R	32-L	5/8 x 3/8	1/8 x 7/8	1/4 x 7/8	14 to 16	2.2
23	33-R	33-L	3/4 x 5/8	3/16x1	5/16x1	16	3.5
24	34-R	34-L	7/8 x 3/4	3/16x1 1/8	3/8 x1 1/8	18	4.7
25	35-R	35-L	7/8 x 3/4	1/4 x1 1/8	.....	18	5.

Note: Old Numbers had prefix "N". Numbers 19, 29-R and 29-L were previously known as N-020-R, N-030-R and N-030-L.

WILLIAMS' EXTENSION SHAPER TOOLS

Furnished with
Bar, Cutter and Wrenches

The design and extreme rigidity of this Shaper Tool adapts it for cutting internal keyways, die work or any type of shaper work where extra clearance is needed.



No.	Holder, Size	Size Bar	Size Cutter, Square	Weight Ea., Lbs.
*46	3/8 x 7/8	1/2 x 7 1/2	3/16	1.1
47	1/2 x 1 1/8	3/4 x 10	5/16	3.3
48	5/8 x 1 3/8	15/16 x 12	3/8	6.

* Instead of split collar, as illustrated, bar is held by two hollow set screws.

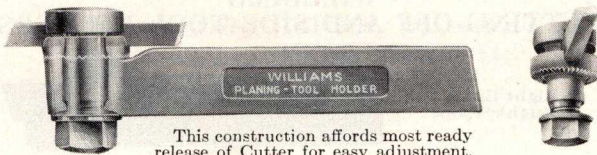
EXTRA BARS AND BUSHINGS

Each Bar furnished with one Bushing,
High Speed Cutter and Wrench.

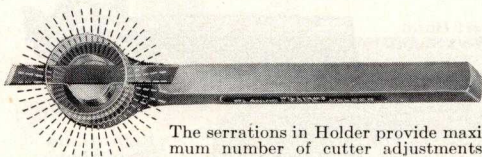
When ordering, please furnish number of Tool or Holder size in which Bar is to be used, otherwise bushing will not be included.

No.	Size Bar	Size Cutter, Square	With Bushing to Fit Holder Number	Without Bushing to Fit Holder Number	Weight Each, Lbs.
0530	1/2 x 7 1/2	3/16	47 and 48	46	.75
0532	5/8 x 8 1/2	1/4	47 and 48	..	1.1
0597	3/4 x 10	5/16	48	47	1.6
0598	15/16 x 12	3/8	.....	48	2.7

WILLIAMS' PLANING-TOOL HOLDERS



This construction affords most ready release of Cutter for easy adjustment.



The serrations in Holder provide maximum number of cutter adjustments.

Furnished with Cutter and Wrench

A rugged, substantial and efficient tool on either Lathe or Planer. Because of its numerous angles of adjustment it also makes an excellent Offset Turning Tool.

The construction assures perfect seat and holding qualities for the Cutters; the convex face of Clamp Nut provides uniform locking pressure for Cutters of either square or rectangular form; the numerous serrations in Holder provide for quick, fine and maximum number of Cutter adjustments unequalled in other designs.

The serrated washer, or Adjustment Ring, which sustains the fastening and working strains, is hardened and tempered. Should it wear in prolonged service, a new Ring *only* is required—not a complete Holder.

New No.	Old No.	Holder, Size	Cutter Size	Complete Holder Weight Ea., Lbs.	Extra Adjust. Ring Weight Ea., Lbs.
40	91	1/2 x 1 x 7	1/4 x 3/8	2.2	.13
401	92	5/8 x 1 1/4 x 8 1/2	5/16 x 7/16	3.8	.19
41	93	3/4 x 1 1/2 x 10 1/4	3/8 x 1/2	6.	.25
42	94	1 x 1 3/4 x 13 1/4	1/2 x 3/4	11.1	.38
43	95	1 3/8 x 2 x 16 1/2	5/8 x 7/8	20.6	.75
44	96	1 3/4 x 2 3/8 x 19	3/4 x 1	31.	1.3
45	97	2 1/8 x 2 3/4 x 22	7/8 x 1 1/8	53.	1.9

WILLIAMS' KNURLING-TOOL HOLDERS



Nos. 00-K to 2-K with
Self-centering Head and
One Pair of Knurls.

Nos. 3-K-0 to 3-K-2 with
Revolving Head and
Three Pairs of Knurls.



Nos. 00-K to 2-K, with sturdy, self-centering heads, are each fitted with ONE pair of Knurls for fine, medium, or coarse work. Unless otherwise specified, "Diamond" Pattern, Medium Knurls will be supplied.

Nos. 3-K-0 to 3-K-2 carry THREE pairs of Knurls for fine, medium and coarse work.

These are fitted in a revolving head and can be used as desired, without loss of time in changing from one grade of knurling to another.

The Pins are of Tool Steel, carefully tempered.

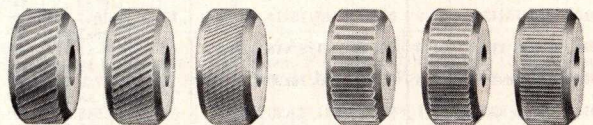
No.	Holder, Size	Knurls, Size			For Lathes of Approx. Swing, In.	Wgt. Each, Lbs.
		Diam.	Face	Hole		
SELF-CENTERING HEAD—ONE PAIR OF KNURLS						
00-K	5/16 x 3/4 x 5	5/8	3/16	7/32	7 to 10	.53
0-K	3/8 x 7/8 x 5 1/2	5/8	3/16	7/32	10 to 12	.63
1-K	1/2 x 1 1/8 x 6 5/8	3/4	1/4	1/4	14 to 16	1.3
2-K	5/8 x 1 3/8 x 7 1/2	3/4	1/4	1/4	16 to 18	1.9
REVOLVING HEAD—THREE PAIRS OF KNURLS						
3-K-0	3/8 x 7/8 x 5 1/2	5/8	3/16	7/32	10 to 12	1.
3-K-1	1/2 x 1 1/8 x 6 5/8	3/4	1/4	1/4	14 to 16	1.8
3-K-2	5/8 x 1 3/8 x 6 5/8	3/4	1/4	1/4	16 to 18	2.2

† Formerly numbered 11-K and 12-K respectively.

KNURLS FOR WILLIAMS' KNURLING-TOOL HOLDERS

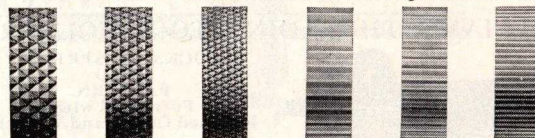
DIAMOND PATTERN

STRAIGHT-LINE PATTERN



Coarse 14 Pitch Medium 21 Pitch Fine 33 Pitch Coarse 14 Pitch Medium 21 Pitch Fine 33 Pitch

Note: "Pitch" means number of teeth per linear inch.



Illustrations above show actual size of Knurling

Williams Knurls are made to close limits in all respects and, being accurately cut, they assure sharp and perfect teeth in the knurled product. The hole is concentric with and parallel to the cutting face, insuring uniform, clean cut results. All Knurls are made from high grade tool steel and are specially hardened and tempered.

Furnished in pairs to fit standard makes of Knurling Tools and supplied in two Patterns—"Diamond" and "Straight-Line." Three different pitches in each Pattern—Coarse, 14 pitch; Medium, 21 pitch; Fine, 33 pitch; all as illustrated above. When ordering, always specify Pattern and pitch desired by catalog number.

Knurl No.	For Knurling Tool No.	Pitch	Knurls, Size				Wgt. Per Pair, Lbs.
			Dia.	Thick-ness	Face	Hole	
DIAMOND PATTERN							
8227	00-K, 0-K, 3-K-0	Fine	5/8	5/16	3/16	7/32	.05
8224	00-K, 0-K, 3-K-0	Medium	5/8	5/16	3/16	7/32	.05
8221	00-K, 0-K, 3-K-0	Coarse	5/8	5/16	3/16	7/32	.05
8228	1-K, 2-K, 3-K-1, 3-K-2	Fine	3/4	3/8	1/4	1/4	.08
8225	1-K, 2-K, 3-K-1, 3-K-2	Medium	3/4	3/8	1/4	1/4	.08
8222	1-K, 2-K, 3-K-1, 3-K-2	Coarse	3/4	3/8	1/4	1/4	.08
STRAIGHT-LINE PATTERN							
8267	00-K, 0-K, 3-K-0	Fine	5/8	5/16	3/16	7/32	.05
8264	00-K, 0-K, 3-K-0	Medium	5/8	5/16	3/16	7/32	.05
8261	00-K, 0-K, 3-K-0	Coarse	5/8	5/16	3/16	7/32	.05
8268	1-K, 2-K, 3-K-1, 3-K-2	Fine	3/4	3/8	1/4	1/4	.08
8265	1-K, 2-K, 3-K-1, 3-K-2	Medium	3/4	3/8	1/4	1/4	.08
8262	1-K, 2-K, 3-K-1, 3-K-2	Coarse	3/4	3/8	1/4	1/4	.08

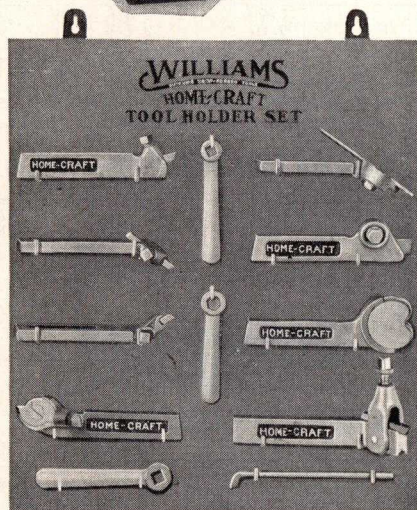
WILLIAMS'

"HOME-CRAFT" TOOL HOLDER SET



In Metal Case,
7 Lbs.

On Wood Panel,
8.6 Lbs.



Williams "Home-Craft" Set consists of 8 Tool Holders with 3 Wrenches for all lathe operations—Turning, Cutting-Off, Boring, Threading, Knurling—and supplies a convenient, efficient and economical equipment for those using small lathes with 7 to 10" swing.

The Holders, or Shanks, all drop-forged from a strong, tough grade of carefully selected steel, are specially heat-treated and hardened. The nose of the Holders is chamfered to permit convenient use in cramped quarters.

All Cutters are made of High Speed Steel and are carefully hardened.

Cutting-Off Blades (or Cutters) are ground ready for use. The Threading-Tool Holder is supplied with a Formed Cutter, the point of which is ground to an included angle of 60°. In re-sharpening it is necessary to grind the top edge only.

The Boring-Tool is furnished with Bar 1/4" round by 5" long, with point offset and ground; a 1/4" square turning cutter is also included.

The Knurling-Tool is fitted with "Diamond" pattern Knurls for medium work (21 pitch). Knurls for fine (33 pitch) or coarse (14 pitch) work are available if desired. "Straight Line" Knurls can also be furnished.

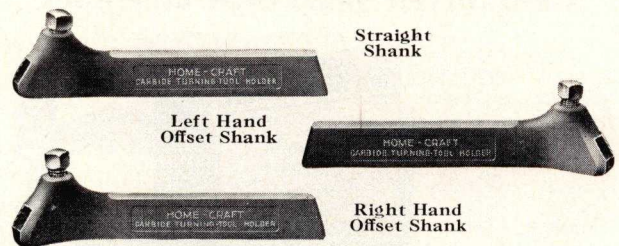
When ordering, please state whether Panel or Case is wanted.

New No.	Old No.	Tool Holder	Size Shank	Cutter; High Speed Steel	Wt. Ea., Lbs.
2010-S	0-S H	Turning—Straight Shank	3/8 x 13/16	1/4 Sq.	.63
2010-R	0-R H	Turning—R. H. Offset Shank	3/8 x 13/16	1/4 Sq.	.64
2010-L	0-L H	Turning—L. H. Offset Shank	3/8 x 13/16	1/4 Sq.	.64
2340	0-K H	Knurling	3/8 x 3/4	*Med.	.59
2320-S	N-20-R H	Cut-Off—R. H. Straight Shank	3/8 x 13/16	*3/32 x 5/8	.63
2320-R	N-30-R H	Cut-Off—R. H. Offset Shank	3/8 x 13/16	*3/32 x 5/8	.69
2050	C-50H	Threading—with Formed Cutter	3/8 x 3/4	*Formed	.66
2030	15 H	Boring—Reversible—R. or L. Hand	3/8 x 3/4	1/4 Sq. { 1/4 rd.x.5	.88

* All finished, ready for use.

WILLIAMS' "HOME-CRAFT"

CARBIDE TURNING-TOOL HOLDERS



In these Tools, the Cutter is held parallel to the shank. Consequently, Cutters can be so ground as to provide maximum support for the cutting edge. This feature, plus the extremely rigid Holder, is the recognized basis for the best performance of cemented Carbide Cutters.

Holders are broached for square Carbide Cutters but are supplied WITHOUT CUTTERS.

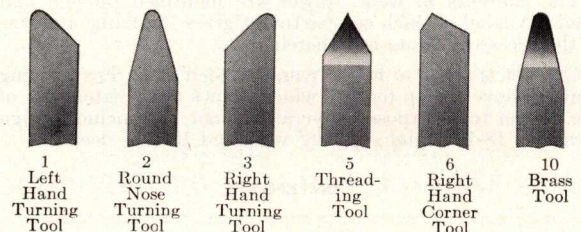
Williams Carbide Tipped Cutters, for use with the above holders, are available in two grades and four standard shapes of tips. See page 51 for full description.

Straight Shank	Number		Holder, Size	For Cutter, Square Size	For Lathes of Approx. Swing, Inches	Wt. Ea., Lbs.
	Right Hand	Left Hand				
TOS-H	TOR-H	TOL-H	3/8 x 13/16 x 6	1/4	7 to 10	.67

WILLIAMS'

"HOME-CRAFT" FINISHED CUTTERS

High Speed Steel—1/4" Square



SET OF 6 CUTTERS

In Cardboard Box

Weight, .25 Lb.

These ready-to-use "Home-Craft" Cutters are made of High Speed Steel. All are carefully ground to shape and hardened in electric furnaces, with atmosphere, temperature and time under absolute control. Long service is assured.

This Set of 6 Cutters of the forms illustrated cares for practically all lathe needs of school and home workers.



WILLIAMS' "HOME-CRAFT"

DROP-FORGED LATHE DOGS

Williams "Home-Craft" Dogs are drop-forged—not cast—and consequently, are light but unusually strong and durable. Made especially for home-craft work; screws are hardened for lasting service.

Number	*Capacity	Wgt. Ea., Lbs.	Number
72-H	1/2	.28	72-H
73-H	3/4	.50	73-H
74-H	1	.91	74-H
76-H	1-1/2	1.1	76-H

* Opening in each Dog is 1/16" over listed "Capacity" to easily accommodate rough or irregular pieces.

WILLIAMS' LATHE TOOL ACCESSORY CABINET



No. THC-1

Total Weight, 81-1/4 Lbs.

The assortment of lathe tool accessories contained in this cabinet includes the most-called-for parts in all popular sizes. In addition to providing a convenient method of stocking these parts, this cabinet also acts as an effective display from which many additional sales are made.

The contents of each drawer are identified outside and inside. A label on each compartment gives the name and size of the accessory contained therein.

Cabinet is made of heavy gauge welded steel. Easy sliding drawers have a stop feature which allows the greater part of the drawer to be exposed. Overall cabinet, not including sign measures 18-1/4" high, 14-5/8" wide and 15-5/8" deep.

CONTENTS

Qty.	Description	Qty.	Description
HIGH SPEED CUTTERS		LIGHT BORING BARS	
6	3/16" Square.....	3	1/8 x 4".....
12	1/4" Square.....	6	3/16 x 4-1/2".....
12	5/16" Square.....	6	1/4 x 5".....
6	3/8" Square.....	6	5/16 x 6".....
3	7/16" Square.....	6	3/8 x 7".....
CUTTING OFF BLADES		4	7/16 x 8".....
6	3/32 x 5/8".....	KNURLS	
6	1/8 x 3/4".....	2 pr.	No. 8227 5/8" Fine Diamond....
6	1/8 x 7/8".....	2 pr.	No. 8224 5/8" Medium Diamond....
3	3/16 x 1".....	2 pr.	No. 8221 5/8" Coarse Diamond....
FORMED CUTTERS FOR THREADING TOOLS		2 pr.	No. 8267 5/8" Fine Straight....
2	50.....	2 pr.	No. 8264 5/8" Medium Straight....
2	51.....	2 pr.	No. 8261 5/8" Coarse Straight....
2	52.....	2 pr.	No. 8228 3/4" Fine Diamond....
1	53.....	2 pr.	No. 8225 3/4" Medium Diamond....
SLEEVE BARS		2 pr.	No. 8222 3/4" Coarse Diamond....
1	1/2".....	2 pr.	No. 8268 3/4" Fine Straight....
1	5/8".....	2 pr.	No. 8265 3/4" Medium Straight....
1	3/4".....	2 pr.	No. 8262 3/4" Coarse Straight....
1	15/16".....	SET SCREW FOR TOOL HOLDERS	
PLAIN BARS		2	00S.....
1	1/2".....	4	0S.....
1	5/8".....	4	1S.....
1	3/4".....	4	2S.....
1	15/16".....	2	3S.....

WILLIAMS' HIGH SPEED STEEL CUTTERS FOR WILLIAMS' TOOL HOLDERS

Require minimum of grinding only for use in Holders. All Cutters are hardened.

For Turning Tool Holders			
No.	CUTTER, SIZE		Weight Each, Lbs.
	Square	Length	
000	3/16	1 3/4	.02
00 & 100	3/16	1 7/8	.02
0 & 101	1/4	2 3/8	.04
1 & 201	5/16	2 7/8	.08
2 & 102	3/8	3 3/8	.13
3	7/16	3 3/4	.19
4 & 103	1/2	4 1/8	.27
5	5/8	4 3/4	.48
6	3/4	5 1/2	.81

† Cutters of these sizes are also suitable for turning when used in Threading-Tool, Nos. S-50 to S-52.

For Threading-Tool Holders			
No.	CUTTER, SIZE		Weight Each, Lbs.
	Square	Length	
S-50	1/4	2 3/8	.04
S-51	5/16	2 7/8	.08
S-52	3/8	3 3/8	.13

Turning-Tool Cutters marked † are suitable for turning work in Threading-Tool Holders. See table above.

Bevel For Cutting-Off Tool Holders			
Number	Size		Weight Each, Lbs.
19 - 29	3/32 x	1/2	.06
20 - 30	3/32 x	5/8	.07
21 - 31	1/8 x	3/4	.14
22 - 32	1/8 x	7/8	.19
23 - 33	3/16 x	1	.35
24 - 34	3/16 x	1 1/8	.46
25 - 35	1/4 x	1 1/8	.69

For Williams' Boring Bars				
Bar Diameter	For Use at Angle of	CUTTER, SIZE		Weight Each, Lbs.
		Square	Length	
1/2	90°	3/16	1	.02
	45°	3/16	1 1/2	.02
5/8	90°	3/16	1	.02
	45°	3/16	1 1/2	.02
3/4	90°	1/4	1 1/4	.03
	45°	1/4	2	.04
15/16	90°	5/16	1 1/2	.04
	45°	5/16	2 1/2	.06
1 1/8	90°	3/8	1 7/8	.07
	45°	3/8	3	.10
1 5/16	90°	3/8	2 1/8	.08
	45°	3/8	3 1/4	.13
1 1/2	90°	7/16	2 1/4	.13
	45°	7/16	3 3/8	.17
1 13/16	90°	1/2	2 5/8	.19
	45°	1/2	4	.26
2 1/4	90°	5/8	3 1/8	.35
	45°	5/8	4 3/4	.48

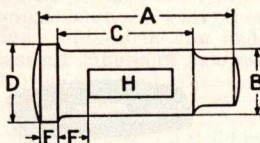
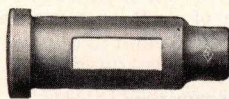
* Cutters of these sizes are also suitable for use with Nos. 46, 47 and 48 Extension Shaper Tools.

For Planing-Tool Holders			
Number	CUTTER, SIZE		Weight Each, Lbs.
	Flat	Length	
40	1/4 x 3/8	2 1/2	.06
401	5/16 x 7/16	3	.13
41	3/8 x 1/2	3 1/2	.19
42	1/2 x 3/4	4 1/4	.45
43	5/8 x 7/8	5	.77
44	3/4 x 1	6	1.3
45	7/8 x 1 1/8	7	2.1

Heavy Bevel For Side-Tool Holders			
Number	Size		Weight Each, Lbs.
19 - 29	1/8 x	1/2	.06
20 - 30	5/32 x	5/8	.10
21 - 31	3/16 x	3/4	.19
22 - 32	1/4 x	7/8	.36
23 - 33	5/16 x	1	.56
24 - 34	3/8 x	1 1/8	.92

WILLIAMS' ♦"VULCAN" TOOL POST FITTINGS

TOOL POSTS



UNFINISHED—OPENINGS PUNCHED OUT

Number	5	10	20	23	28	30	40	50	60
Length, A.....	2 ¹⁵ / ₁₆	4 ¹ / ₁₆	4 ⁹ / ₁₆	5	5 ³ / ₁₆	5 ¹ / ₄	6 ⁵ / ₁₆	7 ³ / ₈	8 ³ / ₄
Body.....									
Diameter, B....	1 ¹ / ₃₂	1 ¹ / ₄	1 ⁵ / ₈	1 ⁷ / ₁₆	1 ¹ / ₂	1 ¹³ / ₁₆	2 ¹ / ₁₆	2 ¹ / ₄	2 ³¹ / ₃₂
Length, C.....	2	2 ⁷ / ₈	3 ¹ / ₄	3 ¹ / ₂	3 ¹¹ / ₁₆	3 ³ / ₄	4 ³ / ₈	5	6
Base.....									
Diameter, D....	1 ⁷ / ₃₂	1 ⁵ / ₈	2 ¹ / ₈	1 ⁷ / ₈	2 ¹ / ₁₆	2 ⁵ / ₁₆	2 ⁵ / ₈	2 ¹⁵ / ₁₆	3 ⁵ / ₈
Thickness, E...	⁵ / ₁₆	¹ / ₄	⁷ / ₁₆	⁹ / ₁₆	⁵ / ₁₆	¹ / ₂	³ / ₁₆	⁵ / ₈	³ / ₄
Base to Opening, F....	³ / ₁₆	¹ / ₂	¹³ / ₁₆	⁵ / ₈	⁵ / ₈	¹⁵ / ₁₆	1 ³ / ₁₆	1 ³ / ₈	1 ¹ / ₂
Opening.....									
Size, H.....	1 ⁵ / ₁₆	1 ¹⁵ / ₁₆	1 ⁷ / ₈	2 ¹ / ₈	2 ¹ / ₁₆	2 ¹ / ₈	2 ¹ / ₁₆	2 ¹ / ₈	3 ³ / ₁₆
For use with.....									
Wedge.....	5	10	15 & 18	15	15 & 18	18 & 20	30 & 40	60	
Ring.....	5	10	11	14	18	20	30 & 40	60	
Wgt. Each, Lbs.	.5	1.1	2.2	1.6	2.2	3.1	4.7	6.6	14.2

TOOL POST WEDGES



For Changing Angles of Lathe Tools

Number	5	10	11	15	18	20	30	40	60	65
Length.....	2 ¹³ / ₃₂	3	3 ³ / ₈	3 ³ / ₈	3 ⁷ / ₈	3 ⁷ / ₈	4 ³ / ₈	4 ⁷ / ₈	5 ¹ / ₄	5 ⁵ / ₁₆
Width—Top.....	¹³ / ₃₂	⁹ / ₁₆	¹ / ₂	⁵ / ₈	¹¹ / ₁₆	¹¹ / ₁₆	³ / ₄	¹³ / ₁₆	¹⁵ / ₁₆	⁷ / ₈
Width—Extreme...	¹ / ₂	2 ¹ / ₃₂	1 ⁹ / ₃₂	2 ³ / ₃₂	³ / ₄	¹³ / ₁₆	⁷ / ₈	1 ¹⁵ / ₁₆	1 ³ / ₃₂	1 ¹ / ₃₂
Extreme Thickness...	¹¹ / ₃₂	³ / ₁₆	²⁵ / ₆₄	⁷ / ₁₆	¹⁵ / ₃₂	¹⁷ / ₃₂	¹ / ₂	2 ¹ / ₃₂	³ / ₄	²³ / ₃₂
Radius.....	3	2 ⁷ / ₈	4 ⁵ / ₈	4 ⁵ / ₈	4 ¹ / ₂	4 ³ / ₄	5 ¹ / ₂	5 ³ / ₄	6	5
For Use with Post...	5	10	20	20	30	30	40	40	50	
For Use with Ring...	5	10	11	11	11 & 20	20	30	40	60	
Weight Each, Lbs.	.08	.19	.13	.19	.25	.30	.36	.56	.78	.91

TOOL POST RINGS

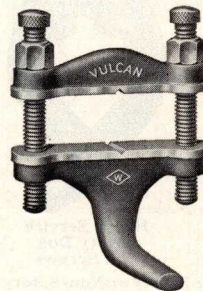


For Changing Angles of Lathe Tools

Number	5	10	11	14	18	20	30	40	60
Diameter, Outside	2 ¹ / ₄	2 ¹⁵ / ₁₆	3	3 ³ / ₁₆	3 ³ / ₁₆	3 ¹ / ₂	3 ¹ / ₂	4	4 ¹ / ₂
Diameter, Hole...	1 ¹ / ₁₆	1 ⁵ / ₁₆	1 ⁵ / ₈	1 ⁷ / ₁₆	1 ¹ / ₂	1 ³ / ₄	2	2	2 ³ / ₁₆
Thickness, Edge...	³ / ₈	⁷ / ₁₆	⁷ / ₁₆	⁹ / ₁₆	⁹ / ₁₆	¹ / ₂	³ / ₄	³ / ₄	³ / ₄
Radius of Concave	3	2 ⁷ / ₈	4 ⁵ / ₈	4 ⁵ / ₈	4 ¹ / ₂	4 ³ / ₄	5 ¹ / ₂	5 ³ / ₄	6
For Use with Post...	5	10	20	23	28	30	40	40	50
For Use with Wedge.....	5	10	11 & 15	18 & 20	18	18 & 20	30	40	60
Wgt. Each, Lbs.	.30	.65	.56	.94	1.3	.94	1.3	1.9	2.3

♦REGISTERED TRADE MARK

WILLIAMS' ♦"VULCAN" DROP-FORGED CLAMP LATHE DOGS



These are drop-forged from a strong, tough grade of carefully selected steel and are heat-treated after forging to increase further their strength and reduce the liability of springing.

The Screws, threaded U.S. Standard, are made of a special grade of steel and are hardened and tempered. The Nuts are case-hardened. Extra Screws and Nuts carried in Stock.

The Nuts furnish ready means of arrangement for the minimum projection of Screws beyond the body of Dog and thus lessen the danger to the operator when tool is in use.

No.	Capacity		Screws		Weight Each, Lbs. Dog Complete
	Maximum Opening	Distance Between Screws	Diameter	Length Under Head	
61	1 5/8	1 3/4	5/16	2 3/4	.53
62	1 7/8	2 1/4	3/8	3 5/16	.98
63	2 1/2	2 3/4	7/16	4 1/4	1.8
64	3 1/4	3 1/2	1/2	5 3/8	3.

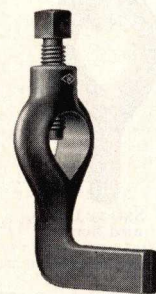
WILLIAMS' ♦"VULCAN" DROP-FORGED MILLING MACHINE DOGS

With Flat, Bent Tail

These are designed for taper work carried between centers on milling machines. The flat tail works in the head-slot without the back-lash unavoidable in Dogs with taper tail. They serve also as a heavy pattern Lathe Dog.

The heads are made of sufficient size to permit re-tapping for one or two larger sizes of screws as the threads wear.

The Screws, threaded U. S. Standard, are made of a special grade of steel and are hardened and tempered.



Number	Capacity	Screw		Weight Each, Lbs. Dog Complete
		Diameter	Length Under Head	
42	1/2	3/8	1 1/4	.75
43	3/4	7/16	1 5/8	.93
44	1	1/2	2	1.2
45	1 1/4	1/2	2 1/4	1.3
46	1 1/2	9/16	2 3/8	1.6
47	1 3/4	5/8	2 1/2	1.8
48	2	5/8	2 7/8	2.1

**WILLIAMS' ♦ "VULCAN"
DROP-FORGED LATHE DOGS
WITH BENT TAIL**



Safety Dog and Screw

Non-Safety Dog with Sq. Hd. Screw

Heavy Service Safety Dog and Screws

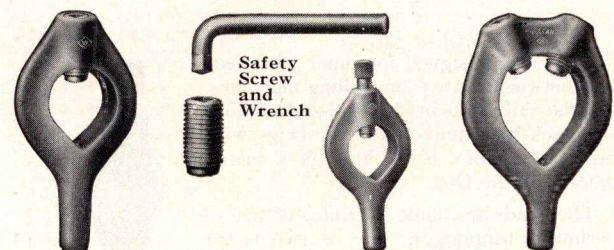
Furnished with Interchangeable Screws either Safety or Non-Safety

The Screws are of special steel, hardened and tempered and are threaded U. S. Standard, except that those above 1 inch diameter have eight threads per inch. They are supplied in two types, Safety and Non-Safety, which are interchangeable in corresponding Dogs.

When ordering extra Screws, please state whether Safety or Non-Safety type is wanted: if latter, specify diam. of screw. Dogs with Safety Screws will be supplied, unless otherwise specified

No.	Capacity	SCREWS				Weight Ea., Lbs. Dog with Either Screw
		Square Head		Safety		
		Diam.	Length Under Hd.	Diam.	Extreme Length	
WITH BENT TAIL AND ONE SCREW						
1	3/8	7/16	1	7/16	5/8	.32
2	1/2	9/16	1 1/4	9/16	13/16	.56
3	3/4	5/8	1 5/8	5/8	1 1/16	1.
4	1	5/8	2	5/8	1 1/4	1.5
5	1 1/4	3/4	2 1/4	3/4	1 3/8	1.9
6	1 1/2	7/8	2 7/16	7/8	1 11/16	2.6
7	1 3/4	7/8	2 7/16	7/8	1 11/16	3.3
8	2	1	2 3/4	1	1 7/8	4.1
9	2 1/2	1 1/8	3	1 1/8	2	5.4
10	3	1 1/4	3 1/4	1 1/4	2 1/8	7.
11	3 1/2	1 3/8	3 1/2	1 3/8	2 1/2	10.
12	4	1 1/2	3 3/4	1 1/2	2 5/8	12.
13	5	1 5/8	4 1/2	1 5/8	3 3/8	20.

WITH STRAIGHT TAIL



Safety Dog and Screw

Non-Safety Dog with Sq. Hd. Screw

Heavy Service Safety Dog and Screws

No.	Capacity	SCREWS				Weight Ea., Lbs. Dog with Either Screw
		Square Head		Safety		
		Diam.	Length Under Hd.	Diam.	Extreme Length	
WITH STRAIGHT TAIL AND ONE SCREW						
21	3/8	7/16	1	7/16	5/8	.19
22	1/2	9/16	1 1/4	9/16	13/16	.34
23	3/4	5/8	1 5/8	5/8	1 1/16	.66
24	1	5/8	2	5/8	1 1/4	1.1
25	1 1/4	3/4	2 1/4	3/4	1 3/8	1.5
26	1 1/2	7/8	2 7/16	7/8	1 11/16	2.
27	1 3/4	7/8	2 7/16	7/8	1 11/16	2.7
28	2	1	2 3/4	1	1 7/8	3.5
29	2 1/2	1 1/8	3	1 1/8	2	4.6
30	3	1 1/4	3 1/4	1 1/4	2 1/8	6.
31	3 1/2	1 3/8	3 1/2	1 3/8	2 1/2	9.
32	4	1 1/2	3 3/4	1 1/2	2 5/8	11.
33	5	1 5/8	4 1/2	1 5/8	3 3/8	19.5

Unless otherwise specified, a Wrench will be supplied with Safety Dogs at extra price.

♦ REGISTERED TRADE MARK

**WILLIAMS' ♦ "VULCAN"
DROP-FORGED STRAP CLAMPS**

These forgings are made from a strong, tough grade of carefully selected steel and are heat-treated after forging to increase their strength and stiffness.

On Planer, Lathe, Drill Press, Milling and Boring Machine work they are time-saving and effective—far more efficient than any make-shift clamp. Because of draft or taper on forgings, minimum dimensions of slot are given.



**PLAIN SLOT
PATTERN**

No.	Length	Width		Thickness		Slot; Min. Dim.		Weight Ea., Lbs.
		Ends	Center	Ends	Center	Length	Width	
54	4	1 3/16	1 5/8	1/2	3/4	1 3/8	11/16	1.
56	6	1 1/4	1 3/4	9/16	7/8	2 1/16	11/16	1.8
58	8	1 1/2	2 1/8	3/4	1 1/8	2 13/16	13/16	3.8
59	10	1 3/4	2 1/2	15/16	1 3/8	3 11/16	15/16	6.6

**ADJUSTABLE STEP
PATTERN**



No.	Lgth.	Width		Thickness		Slot; Min. Dimensions		Screws		Weight Each, Lbs.	
		Ends	Center	Ends	Center	Lgth.	Width	Diam.	Lgth. Under Head	Extra Screws	Complete Clamps
54A	4	1 3/16	1 5/8	1/2	3/4	1 3/8	1 1/16	1/2	1 1/4	.06	1.1
56A	6	1 1/4	1 3/4	9/16	7/8	2 1/16	1 1/16	5/8	1 1/2	.19	2.
58A	8	1 1/2	2 1/8	3/4	1 1/8	2 13/16	1 3/16	7/8	1 3/4	.31	3.9
59A	10	1 3/4	2 1/2	15/16	1 3/8	3 11/16	1 5/16	1 1/8	2 1/8	.5	7.1



**GOOSE NECK
PATTERN**

No.	Lgth.	Width		Thickness		Slot; Min. Dimensions		Neck Offset	Weight Each, Lbs.
		Ends	Center	Ends	Center	Length	Width		
74	4	1 3/16	1 5/8	3/8 & 1/2	3/4	15/16	11/16	13/16	1.
76	6	1 1/4	1 3/4	7/16 & 9/16	7/8	1 11/16	11/16	15/16	2.
78	8	1 1/2	2 1/8	9/16 & 3/4	1 1/8	2 7/16	13/16	1 1/8	4.2

**FINGER PATTERN
SINGLE END**



No.	Lgth.	Width			Thickness		Slot; Min. Dimensions		Finger Dimensions	Wgt. Each, Lbs.
		Flat End	Center	Center	Flat End	Center	Length	Width		
44	4	1 3/16	1 5/8	7/16	3/4	1 3/8	11/16	1/2 x 1/2	.83	
46	6	1 1/4	1 3/4	1/2	7/8	1 15/16	11/16	5/8 x 5/8	1.6	
48	8	1 1/2	2 1/8	5/8	1 1/8	2 9/16	13/16	3/4 x 3/4	3.3	



**FINGER PATTERN
DOUBLE END**

No.	Length	Width Center	Thickness Center	Min. Diameter Hole	Finger Dimensions	Weight Ea., Lbs.
30	3	1 1/2	5/8	11/16	1/2 x 1/2	.37
35	3 1/2	1 5/8	3/4	11/16	5/8 x 5/8	.62
40	4	1 13/16	7/8	13/16	3/4 x 3/4	.87

"U" PATTERN



No.	Length	Max. Width	Thickness	Slot; Min. Dimensions		Finger Dimensions	Weight Ea., Lbs.
				Length	Width		
64	4 1/2	1 3/4	3/4	3 1/2	11/16	1/2 x 1/2	1.
66	6 5/8	2	7/8	5 1/2	11/16	5/8 x 5/8	2.
68	8 3/4	2 1/2	1 1/8	7 3/8	13/16	3/4 x 3/4	4.
110	10	2 3/4	1 1/4	9	15/16	15/16 x 15/16	5.8
112	12	3 1/4	1 3/4	11	1 1/16	1 1/16 x 1 1/16	10.3

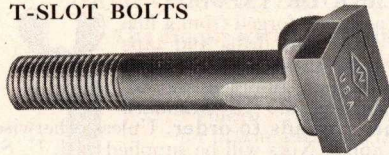
UNIVERSAL ADJUSTABLE PATTERN

Designed for holding work in planers, boring mills, drill presses, milling machines, etc. Ideal for irregular shapes and varying sizes. Position of the saddle may be changed to maintain vertical, right angle positioning of the tie-bolt.

No.	Length	Width of Clamp	Adjustment	Max. "T" Slot Bolt. Size Inches	Weight Each, Lbs.			
					No.	Complete	No.	Extra Saddles
21	5 1/16	1 5/8	2 1/4	5/8	21	1.3	21S	.19
22	8	2 1/8	4	3/4	22	3.1	22S	.31
23	12	2 3/4	6 1/4	1	23	9.8	23S	.75

WILLIAMS' SET-UP ACCESSORIES

T-SLOT BOLTS



For setting-up work on planers, shapers, milling machines, etc. Designed to fit T-Slots, threaded National Coarse (U.S.S.), ready for use. Will not turn in table or break out table slots. Packed 25 to a box in lengths up to 6 inches in 3/8, 1/2, 5/8 and 3/4" T-Slot sizes.

3/8"		1/2"		5/8"		3/4"		7/8"		1" T-Slot	
T-Slot Size		T-Slot Size		T-Slot Size		T-Slot Size		T-Slot Size		T-Slot Size	
Lgth. Wt.		Lgth. Wt.		Lgth. Wt.		Lgth. Wt.		Lgth. Wt.		Lgth. Wt.	
1	.05	1 1/4	.14	1 1/2	.27	2	.49	2 1/2	.55	3	1.1
1 1/4	.05	1 1/2	.16	2	.29	2 1/4	.32	2 1/2	.33	3 1/2	1.2
1 1/2	.06	1 3/4	.17	2 1/4	.32	2 1/2	.33	3	.6	4	1.2
1 3/4	.07	2	.18	2 1/2	.33	2 3/4	.36	3 1/2	.67	5	1.4
2	.08	2 1/4	.20	2 3/4	.36	3	.37	4	.73	6	1.6
2 1/4	.08	2 1/2	.21	3	.37	3 1/2	.42	5	.84	7	1.8
2 1/2	.09	2 3/4	.22	3 1/2	.42	4	.47	6	.96	8	1.9
3	.11	3	.24	4	.47	4 1/2	.52	7	1.1	9	2.2
3 1/2	.12	4	.29	4 1/2	.52	5	.56	8	1.2	10	2.2
4	.14	4 1/2	.31	5	.56	5 1/2	.6	9	1.3	12	2.6
4 1/2	.15	5	.35	5 1/2	.6	6	.64	10	1.4	14	2.9
5	.16	6	.4	6	.64	7	.71	12	1.7	16	3.6
5 1/2	.18	7	.44	7	.71	8	.75	14	1.9	20	4.
6	.19	8	.49	8	.75	9	.87	16	2.2	24	4.6
7	.22	9	.55	9	.87	10	.96	18	2.4	30	5.7
8	.26	10	.61	10	.96	12	1.1	20	2.6		
9	.29	12	.71	12	1.1	14	1.3	24	3.2		
10	.32			14	1.3	16	1.5	30	3.9		
				16	1.5	18	1.7				
				18	1.7	20	1.8				
				20	1.8	24	2.4				
				24	2.4	30	3.2				
				30	3.9						

HEXAGON NUTS FOR T-SLOT BOLTS

Specially designed for use with Williams T-Slot Bolts. Threaded National Coarse (U.S.S.) and case hardened. Packed 100 to a box except No. 7 HN- packed 50 to a box.

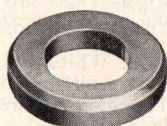
No.	Bolt Dia., In.	Threads Per In.	Thickness, In.	Across Flats, In.	Wgt. Ea., Lbs.
3 HN	3/8	16	7/16	11/16	.04
4 HN	1/2	13	5/8	7/8	.09
5 HN	5/8	11	3/4	1 1/16	.14
6 HN	3/4	10	7/8	1 1/4	.24
7 HN	7/8	9	1	1 7/16	.34



FLAT WASHERS FOR T-SLOT BOLTS

Extra thick to resist bending with a beveled edge on one side. Packed 100 to a box.

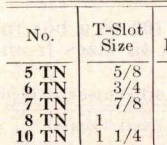
No.	Bolt Dia., Inches	Outside Dia., Inches	Thickness, Inches	Wt. Ea., Lbs.
3W	3/8	7/8	1/8	.02
4W	1/2	1	3/16	.03
5W	5/8	1 1/4	1/4	.06
6W	3/4	1 1/2	1/4	.06
7W	7/8	1 3/4	1/4	.15



T-SLOT NUTS

For setting-up work on planers, shapers, milling machines, etc., where studs are to be used in place of T-Slot Bolts. Packed 10 to a box.

No.	T-Slot Size	Stud Diam.	Threads Per Inch	Length	Width	Thick End	Weight Each, Lbs.
5 TN	5/8	1/2	13	1 1/8	13/32	1 1/4	.18
6 TN	3/4	5/8	11	1 5/16	17/32	1 1/2	.29
7 TN	7/8	3/4	10	1 1/2	9/16	1 3/4	.42
8 TN	1	7/8	9	1 3/4	5/8	2	.63
10 TN	1 1/4	1	8	2	7/8	2 3/8	1.13



SET-UP WEDGES

For setting-up work on planers, shapers, milling machines, etc. Packed 10 to a box.

No.	Length	Width	Thick End	Weight Each, Lbs.
3 WG	3	1	1/4	.13
5 WG	5	1	1/2	.31
6 WG	6	1 1/4	3/4	.63



WILLIAMS' "VULCAN" DROP-FORGED HEAVY SERVICE "C" CLAMPS



These are drop-forged from a strong, tough grade of carefully selected steel. Specially heat-treated to increase further their strength and reduce the liability of springing, they are the strongest "C" Clamps on the market.

The Screws, threaded U. S. Standard, are made of a special grade of steel and are hardened and tempered. With Long Screws the minimum capacity of all Clamps will be 0.

Standard Screws furnished, unless otherwise specified.

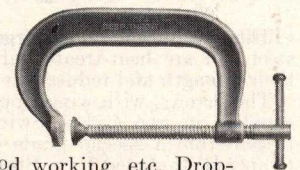
No.	Capacity		Depth of Throat from Center of Screw	Extreme Dimensions of Body		Standard Screw		Weight Each, Lbs.	
	Max.	Min.		Lgth.	Width	Diam.	Lgth. Under Head	Std.	Long
0	3/4	0	3/4	2 1/4	2	5/16	1 1/2	.04	.25
1	1 1/4	0	1 1/8	3 1/4	2 3/4	3/8	2 1/4	.06	.75
1 1/2	1 3/4	11/16	1 1/2	4 1/4	3 5/8	1/2	2 1/4	.13	1.6
2	2 1/4	7/8	1 3/4	5 1/2	4 1/2	5/8	2 7/8	.31	3.1
3	3 1/4	1 5/16	2 3/8	7 1/4	5 3/4	3/4	3 3/4	.50	6.5
4	4 1/2	2	2 3/4	8 7/8	6 1/2	7/8	4 1/2	.81	9.7
5	5 1/2	2 1/2	3 1/8	10 3/8	7	7/8	5 3/8	.94	13.3
6	6 1/2	3 1/16	3 3/8	12	7 7/8	1	5 7/8	1.4	16.5
8	8 1/2	4 1/4	3 3/4	14 3/8	8 1/2	1 1/8	7	2.	24.
10	10 1/2	6 3/8	4 1/8	16 7/8	9	1 1/8	7	2.	28.
12	12 1/2	7 5/8	4 1/2	19 3/8	9 3/4	1 1/4	8	3.	40.

WILLIAMS' DEEP THROAT STANDARD PATTERN DROP-FORGED "C" CLAMPS FOR LIGHT DUTY

Standard for body-builders, woodworkers and kindred trades. All parts except screws are shot-blasted.

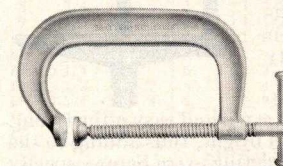
Especially designed for use where the clearance provided by a deep throat is required, as in body building, welding, wood working, etc. Drop-forged from an unusually strong special steel and heat-treated for maximum strength, they combine dependable strength with minimum weight.

The Screws, fitted with adjustable handle, are made from tough, wrought steel, heat-treated and threaded especially for strength and rapid adjustment. Furnished with wrought steel Swivel, as illustrated.



No.	Capacity		Depth of Throat from Center of Screw	Extreme Dimensions of Body		Screw		Weight Each, Lbs.	
	Max.	Min.		Length	Width	Diam.	Length Over All	Screw and Swivel	Extra Swivel Only
402	2	0	2	4 7/8	3 3/4	1/2	4 3/4	.28	.03
403	3	0	2 3/8	6 1/8	4 1/8	1/2	6	.34	.03
404	4	0	2 3/4	7 5/8	4 3/4	5/8	8 1/8	.69	.06
406	6	0	3 5/8	10 1/4	6	5/8	10 1/4	.81	.06
408	8	2	4 1/2	12 3/4	7	3/4	10 5/8	1.3	.06
410	10	3	5 3/8	15 1/4	8 1/8	3/4	11 3/4	1.4	.06
412	12	4	5 3/4	18	9 3/8	7/8	13	2.1	.13

WILLIAMS' DEEP THROAT SPATTER RESISTING DROP-FORGED "C" CLAMPS FOR LIGHT DUTY



Swivel and screw are Cadmium-plated to resist the adherence of welding spatter.

See full description above.

No.	Capacity		Depth of Throat from Center of Screw	Extreme Dimensions of Body		Screw		Weight Each, Lbs.	
	Max.	Min.		Length	Width	Diam.	Length Over All	Screw and Swivel	Extra Swivel Only
402-S	2	0	2	4 7/8	3 3/4	1/2	4 3/4	.28	.03
403-S	3	0	2 3/8	6 1/8	4 1/8	1/2	6	.34	.03
404-S	4	0	2 3/4	7 5/8	4 3/4	5/8	8 1/8	.69	.06
406-S	6	0	3 5/8	10 1/4	6	5/8	10 1/4	.81	.06
408-S	8	2	4 1/2	12 3/4	7	3/4	10 5/8	1.3	.06
410-S	10	3	5 3/8	15 1/4	8 1/8	3/4	11 3/4	1.4	.06
412-S	12	4	5 3/4	18	9 3/8	7/8	13	2.1	.13

WILLIAMS' ♦ "AGRIPPA" DROP-FORGED GENERAL SERVICE "C" CLAMPS

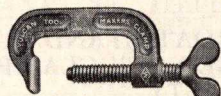


Drop-forged from a special grade of strong, tough steel and heat-treated after forging to reduce the liability of springing.

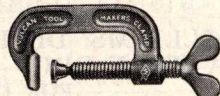
The Screws, fitted with adjustable handle, are made of special steel, hardened and tempered; threaded U. S. Standard. The Swivels are drop-forged.

No.	Capacity		Depth of Throat from Center of Screw	Extreme Dimensions of Body		Screw		Weight, Each Lbs.		
	Max.	Min.		Length	Width	Diam.	Length under Hd. in. Swivel	Extra Screw, Handle and Swivel Only	Clamp Complete	
103	3	0	2	6 7/8	4 3/8	5/8	5 5/8	.69	.13	2.6
104	4	0	2 3/8	8 1/4	5 1/8	3/4	6 7/8	1.2	.19	4.3
106	6	2	2 1/2	10 3/8	5 3/8	3/4	6 7/8	1.2	.19	5.5
108	8	4	2 5/8	12 1/2	5 1/2	3/4	6 7/8	1.2	.19	7.
110	10	6	2 3/4	14 5/8	5 3/4	3/4	6 7/8	1.2	.19	7.5
112	12	8	2 7/8	16 7/8	6	3/4	6 7/8	1.2	.19	9.5
115	15	10	3 1/16	20 1/4	6 1/2	7/8	8 1/8	1.9	.25	13.5
118	18	13	3 1/4	23 1/2	7	7/8	8 1/8	1.9	.25	17.

WILLIAMS' ♦ "VULCAN" DROP-FORGED TOOL-MAKERS "C" CLAMPS



With Plain Screw



With Swivel Screw

These Clamps are drop-forged from a strong, tough grade of steel and are heat-treated after forging to increase further their strength and reduce the liability of springing.

The Screws, with wings formed to permit use of lever, are supplied in two styles—Swivel and Plain. They are drop-forged from a special grade of steel and are hardened and tempered; threaded U. S. Standard.

Clamp bodies are shot-blasted; screws, black.

Clamps with Swivel Screw will be furnished, unless otherwise specified

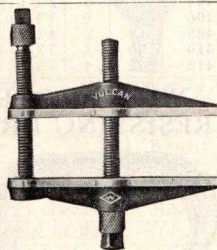
No.	Capacity		Depth of Throat	Extreme Dimensions		Screw		Weight Each, Lbs.		
	Max.	Min.		Lgth.	Width	Diam.	Length	Extra Screw Only	Extra Swivel Only	Clamp Complete
WITH PLAIN SCREW										
201	1	0	11/16	2 1/8	1 1/2	5/16	1 11/16	.05	....	.25
202	2	5/16	13/16	3 3/8	1 7/8	3/8	2 7/16	.08	....	.33
203	3	11/16	15/16	4 1/2	2 1/8	3/8	3 3/16	.13	....	.56
204	4 1/4	1 3/16	1 1/8	6 3/8	2 1/2	7/16	4 1/8	.21	....	.9
WITH SWIVEL SCREW										
201	3/4	0	11/16	2 1/8	1 1/2	5/16	1 11/16	.06	.01	.25
202	1 3/4	5/16	13/16	3 3/8	1 7/8	3/8	2 7/16	.10	.01	.33
203	2 3/4	11/16	15/16	4 1/2	2 1/8	3/8	3 3/16	.13	.01	.56
204	4	1 3/16	1 1/8	6 3/8	2 1/2	7/16	4 1/8	.21	.02	.9

WILLIAMS' ♦ "VULCAN" DROP-FORGED MACHINISTS' CLAMPS

These Clamps are drop-forged from a strong, tough grade of carefully selected steel; all are heat-treated to increase still further their strength and to reduce the liability of springing.

The knurled portion of the hardened and tempered Screws permits rapid and easy adjustment.

The edges of the jaws are ground bright, thus adding to the appearance of the Clamp. When ordering extra Screws specify whether for end or center; lengths given are under-head dimensions and prices are for each of either screw.



No.	Capacity		Screws				Wgt. Ea., Lbs.	
	Maximum Opening	Length Jaw from Screw	End		Center		Extra Screws Each	Complete Clamp
			Diam.	Length	Diam.	Length		
301	1 1/4	1 3/4	5/16	2 1/8	5/16	2 5/8	.07	.6
302	2 1/4	2 1/4	3/8	3 1/4	3/8	3 15/16	.14	1.4
303	3 1/4	2 3/4	7/16	4 5/8	7/16	5 1/4	.23	1.9
304	4 1/4	3 1/4	1/2	5 3/4	1/2	6 1/2	.38	3.1

♦ REGISTERED TRADE MARK

WILLIAMS' DROP-FORGED THUMB NUTS BLANK OR TAPPED



Type A

These are drop-forged from a fine grade of steel that drills and taps readily; they are furnished either Blank or Tapped, tumbled smooth.



Type B

Nuts tapped U. S. Standard threads in stock. Other threads to order. Unless otherwise specified, orders for Tapped Nuts will be supplied with U. S. Standard threads.

Tapped Nuts have base faced at right angle to hole.

Special sizes and shapes and Tobin Bronze Nuts to order.

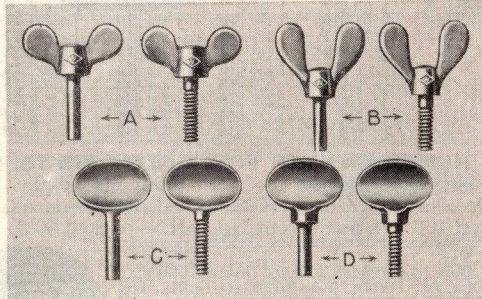
When tapping is ordered, a commercial product is furnished. If additional accuracy is required an extra charge, consistent with the special requirements, will be made. When ordering indicate pattern (A or B) by letter.

Tapped Thumb Nuts are packed 100 to a box in sizes from 1/8" to 3/8" and 25 to a box in sizes 7/16" to 3/4".

Tapped Thumb Nuts will be furnished, unless otherwise specified

For Bolt; Size	1/8	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4
U.S. Std. (Natl. Coarse)—Threads Per Inch	40	24	20	18	16	14	13	12	11	10
Extreme Width across Wings										
Type A	3/4	1 1/16	1 1/8	1 1/4	1 1/2	2	2 1/4	2 5/8	2 3/4	3 1/4
Type B	25/32	1	1 1/16	1 1/8	1 5/8	1 7/8	2 1/8	2 3/8	2 1/2	3
Diameter, Top of Barrel	1/4	5/16	3/8	7/16	17/32	5/8	21/32	3/4	13/16	15/16
Weight per 100, Blank or Threaded	.62	1.3	2.3	4.	6.2	9.1	12.7	16.2	22.5	37.

WILLIAMS' DROP-FORGED THUMB SCREWS All Types Furnished, Either Blank or Threaded



Drop-forged from a fine grade of steel that threads readily and tumbled smooth. Special sizes and shapes and Tobin Bronze Screws to order.

Dies for the following Screws have not yet been made, consequently these sizes are not now carried in stock; 7/16 inch diameter Type B, 9/16 inch diameter Types A and B, 3/4 inch diameter Types A, B and D.

Lengths, longer than those listed, can be furnished specially from available dies; intermediate lengths take price of next longer length.

Screws with U. S. Standard threads in stock. Whitworth Standard supplied at regular prices; other threading to order. Unless other threads are specified, Threaded Screws will be furnished with U. S. Standard threads.

Screws with special points can be supplied to order.

When ordering indicate pattern by letter.

When threading is ordered, a commercial product is furnished. If additional accuracy is required an extra charge, consistent with the special requirements, will be made.

Threaded Thumb Screws are packed 100 to a box in sizes from 1/8" to 3/8" and 25 to a box in sizes from 7/16" to 3/4".

Threaded Thumb Screws will be furnished, unless otherwise specified

Width of Head	Diameter Screw and U. S. Standard (Natl. Coarse) Threads per Inch									
	1/8	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4
Type A	40	24	20	18	16	14	13	12	11	10
Type B	3/4	1 1/16	1 1/8	1 1/4	1 1/2	2	2 1/4	2 5/8	2 3/4	3 1/4
C-D	25/32	1	1 1/16	1 1/8	1 5/8	1 7/8	2 1/8	2 3/8	2 1/2	3

Refer to price sheet for lengths available in diameters listed above.

* Type C only; D not made.


WILLIAMS' ♦"VULCAN" DROP-FORGED HOIST HOOKS

The Hooks with the Orange Tip

SHANK PATTERN



Heat Treating. After forging, every "Vulcan" Hook is accurately heat-treated for maximum strength and toughness—the liability of breakage is reduced to the minimum.

Proof-Testing. To insure proper service at listed capacity every hook, after heat-treatment is proof-tested on a standard tension machine to *fifty per cent beyond* its rated "Safe Working Load." Each hook so tested is stamped , as illustrated, and hence can be readily identified as "proof-tested."

† Shanks of Nos. 13, 14, 15, 15A, 16 and 16A can be made longer if desired at an additional charge per extra inch or fraction thereof.

‡ 15A and 16A Hooks are made from special alloy steel; others from carbon steel.

* Hook shanks, Nos. 2 to 12, are 1/16" to 3/32" larger to allow for machining; Nos. 13 to 16 are rough machined plus or minus 1/64".

No.	Shank		Opening or Throat	Extreme Dimensions		Capacity Shanks Blank, Tons of 2000 lbs.			Wgt. Each, Lbs.
	* Dia., Nominal Rough Size	Lgth.		Lgth.	Width	Safe Working Load	Avg. Load at Elastic Limit	Approx. Load Required to Straighten out	
2	1/2	2	1	5	2 7/8	.5	.9	1.9	.59
3	9/16	2 1/4	1 1/16	5 1/2	3 1/8	.6	1.2	2.3	.78
4	5/8	2 1/2	1 1/8	6	3 1/2	.7	1.5	3.	1.
5	3/4	2 3/4	1 1/4	6 3/4	3 7/8	1.2	2.5	5.7	1.6
6	7/8	3	1 3/8	7 1/2	4 3/8	1.7	3.5	7.	2.1
7	1	3 1/4	1 1/2	8 1/4	4 7/8	2.1	4.2	8.5	3.
8	1 1/8	3 1/2	1 3/4	9 1/4	5 5/8	2.5	5.4	10.	4.4
9	1 1/4	3 3/4	1 7/8	10 1/4	6 3/8	3.	6.2	13.	6.2
10	1 3/8	4	2 1/16	11	6 7/8	4.	8.	17.	8.
11	1 1/2	4 1/4	2 1/4	12	7 1/2	4.7	9.	19.	10.
12	1 5/8	4 1/2	2 1/2	13	8 1/4	5.5	11.	26.	13.3
13	1 3/4	†5	3	14 1/2	9 1/4	6.8	13.	32.	17.8
14	2	†5 1/2	3 3/8	16	11	8.	17.	35.	26.7
15	2 3/8	†6	4	17 7/8	13 1/2	11.	21.	48.	44.
15A	2 3/8	†6	4	17 7/8	13 1/2	15.	25.	55.	46.
16	2 3/4	†7	4 1/2	21 1/2	15	20.	40.	80.	70.
16A	2 3/4	†7	4 1/2	21 1/2	15	25.	50.	...	73.

EYE PATTERN—WELDLESS

Use the Hook with the orange tip—no other standard line offers such assurance of safety and care in manufacture.

For Safety Chains on railroad cars, a Hook, approximately No. 27 in size and with eye at right angle, can be furnished to order in reasonable quantities. Full size drawing on request.

Tobin Bronze Hooks from standard or special dies to order in quantities; prices on application.

‡ 36A Hook is made from special alloy steel; others from carbon steel.



No.	Diameter of Eye		Opening or Throat	Extreme Dimensions		Cap., Tons of 2000 lbs.			Wgt. Each, Lbs.
	Inside	Outside		Lgth.	Width	Safe Working Load	Avg. Load at Elastic Limit	Approx. Load Required to Straighten out	
22	3/4	1 1/2	1	4 3/8	2 7/8	.5	.9	1.9	.53
23	7/8	1 3/4	1 1/16	4 7/8	3 1/8	.6	1.2	2.3	.75
24	1	2	1 1/8	5 3/8	3 1/2	.7	1.5	3.	1.1
25	1 1/8	2 1/4	1 1/4	6 3/8	3 7/8	1.2	2.5	5.7	1.5
26	1 1/4	2 1/2	1 1/2	6 7/8	4 3/8	1.7	3.5	7.	2.2
27	1 1/2	2 3/4	1 3/4	7 3/8	4 7/8	2.1	4.2	8.5	3.
28	1 5/8	3	1 7/8	8 3/8	5 5/8	2.5	5.4	10.	4.4
29	1 3/4	3 1/4	1 7/8	9 3/8	6 3/8	3.	6.2	13.	6.
30	2	3 1/2	2 1/8	10 3/8	6 7/8	4.	8.	17.	8.
31	2 1/4	4	2 1/4	11 3/8	7 1/2	4.7	9.	19.	10.3
32	2 3/8	4 1/4	2 1/2	13	8 1/4	5.5	11.	26.	14.
33	2 1/2	4 1/2	3	14 3/4	9 1/4	6.8	13.	32.	20.
34	3 1/8	5 1/4	3 3/8	16 3/4	11	8.	17.	35.	31.5
35	3 1/2	6	4	19 1/4	13 1/2	11.	21.	48.	51.7
36	4	8 1/2	4 1/2	22 3/4	15	20.	40.	80.	89.
36A	4	8 1/2	4 1/2	22 3/4	15	25.	50.	...	87.

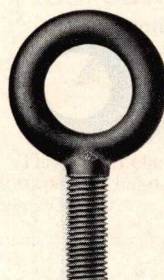
♦ REGISTERED TRADE MARK

WILLIAMS' ♦"VULCAN" WELDLESS EYE BOLTS

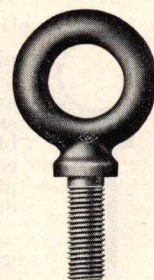
Threaded or Blank

These carbon steel Eye Bolts are specially heat-treated, after forging, to increase further their strength and toughness and reduce the liability of breakage.

To insure proper service at listed capacity, every "Vulcan" Eye Bolt, after heat-treatment, and before threading is proof-tested on a standard tension machine to




PLAIN PATTERN



SHOULDER PATTERN

fifty per cent beyond its "Safe Working Load."

Each Eye Bolt so tested is stamped  near its piece number, which appears in raised letters on the forging, and hence can be readily identified as "proof-tested."

U. S. Std. Threaded Eye Bolts of Standard length are in stock; threaded prices are for these with either U. S. or Whitworth Std. Threads; longer lengths and special threads extra.

Tobin Bronze Eye Bolts for marine work from standard or special dies to order in quantities; prices on request. Prices given for special Eye Bolts on receipt of drawings, or models and specifications.

On standard length Threaded Eye Bolts of Shoulder Pattern the thread runs within 1/8" (No. 21) to 3/4" (No. 36) of shoulder, which is faced.

Prices for either Plain, or Shoulder Eye Bolts of "Extra Length" apply only to forgings which may be in stock at time ordered.

Price on special length Blank or Threaded Eye Bolts on application.

To determine List Price for Threaded Eye Bolts of other than standard length:

- Determine price of Blank (see A, B and C in Price Sheet).
 - Add for threading (see D).
 - If quantity is less than 100 of same pattern and shank diameter, shorter or longer than standard, add \$3.60 NET for the lot to cover "set-up" charge.
- Shorter lengths than standard take Standard Threaded List, plus "set-up" charge, if any.
- Example:—50 No. 28—8" long, Threaded 3" Blank—Std. Length 2"..... (A) \$.73
Extra to Max. 5"..... (B)57
Additional 3" @ 28c..... (C)84
Threading—3" @ 18c..... (D)54

LIST PRICE, Each.....\$2.68

"Set-Up" NET charge, \$3.60 extra for the lot.

When ordering, please state whether Threaded or Blank are desired; Threaded will be supplied, unless otherwise specified.

No.	Shank			Diameter Eye		Capacity Blanks; Tons of 2000 lbs.		Wgt. Ea., Lbs.	
	Diam., Nominal Rough Size; Blank	Standard		Inside	Outside	Safe Working Load	Breaking Strain, Approx.	Blank	Threaded
		Lengths under Eye or Shoulder	Lengths available in Stock; Blank					Lgth.	Length
PLAIN PATTERN									
3	3/8	1 1/4	4 1/2	1	1 21/32	.7	3.	.18	.17
4	7/16	1 3/8	4 1/2	1 3/32	1 27/32	1.	4.	.26	.23
5	1/2	1 1/2	4 1/2	1 3/16	2 1/16	1.3	5.	.35	.33
6	9/16	1 5/8	4 1/2	1 9/32	2 9/32	1.5	6.	.53	.50
7	5/8	1 3/4	4 1/2	1 3/8	2 1/2	2.	8.	.72	.68
8	3/4	2	5	1 1/2	2 13/16	3.	12.	1.2	1.1
9	7/8	2 1/4	5	1 11/16	3 1/4	3.5	16.	1.6	1.5
10	1	2 1/2	5	1 13/16	3 9/16	4.	20.	2.2	2.1
11	1 1/8	2 3/4	5	2	4	5.	23.	3.2	3.
12	1 1/4	3	6	2 3/16	4 7/16	7.5	33.	4.5	4.2
14	1 1/2	3 1/2	6	2 1/2	5 3/16	9.	42.	7.2	6.8
15	1 3/4	3 3/4	6	2 7/8	6 1/16	11.	53.	11.6	10.9
16	2	4	6	3 1/4	6 7/8	13.	68.	16.1	15.1
17	2 1/2	5	6	4	8 9/16	16.	85.	33.	31.

SHOULDER PATTERN

21	1/4	1	3	3/4	1 3/16	.2	1.5	.05	.05
22	5/16	1 1/8	4	7/8	1 7/16	.4	2.	.11	.1
23	3/8	1 1/4	4 1/2	1	1 21/32	.7	3.	.21	.2
24	7/16	1 3/8	4 1/2	1 3/32	1 27/32	1.	4.	.28	.26
25	1/2	1 1/2	4 1/2	1 3/16	2 1/16	1.3	5.	.43	.4
26	9/16	1 5/8	4 1/2	1 9/32	2 9/32	1.5	6.	.58	.54
27	5/8	1 3/4	4 1/2	1 3/8	2 1/2	2.	8.	.77	.72
28	3/4	2	5	1 1/2	2 13/16	3.	12.	1.2	1.1
29	7/8	2 1/4	5	1 11/16	3 1/4	3.5	16.	1.9	1.8
30	1	2 1/2	5	1 13/16	3 9/16	4.	20.	2.6	2.4
31	1 1/8	2 3/4	5	2	4	5.	23.	3.7	3.5
32	1 1/4	3	6	2 3/16	4 7/16	7.5	33.	4.9	4.6
34	1 1/2	3 1/2	6	2 1/2	5 3/16	9.	42.	8.	7.5
35	1 3/4	3 3/4	6	2 7/8	6 1/16	11.	53.	13.3	12.5
36	2	4	6	3 1/4	6 7/8	13.	68.	19.2	18.

WILLIAMS' MISCELLANEOUS EYE BOLTS
CARBON STEEL—WELDLESS



Type A

These are furnished in two styles or types, A and B, and are carried in stock with shanks blank (not threaded), but will be supplied threaded to order at extra charge.

Full size drawings will be sent on request.



Type B
Nos. 17,
25, 30, 35



Type B

Type	No.	Shank		Diameter Eye	
		Diameter	Length	Inside	Outside
A	1	1/4	*3/4	3/8	3/4
	10	3/8	3	3/4	1 3/8
	12	3/8	3	3/8	1
A	11	7/16	2 3/16	1 7/32	2 7/32
	13	7/16	2 3/4	5/8	1 3/8
	14	15/32	1 5/8	1/2	1 1/4
A	15	1/2	2	9/16	1 1/4
	16	1/2	3/4	1 3/8	2 3/8
	17	1/2	4	1	1 3/4
A	20	9/16	2	5/8	1 1/2
	25	5/8	1 3/4	7/8	1 5/8
	26	5/8	*1 3/4	1 1/8	2
A	40	13/16	3 1/4	3/4	2 1/8
	45	1	1 5/16	7/8	2 3/8
	58	1 1/16	4 1/8	1 1/8	2 7/8
B	1	1/4	1/2	3/8	3/4
	4	5/16	3	5/16	15/16
	5	3/8	6	1/2	1 1/8
B	10	7/16	1 1/8	1	1 3/4
	15	1/2	*1 1/2	13/16	1 13/16
	16	1/2	3 1/4	7/16	1 7/16
B	17	1 1/2	1 3/4	1/2	1 1/8
	25	5/8	2 3/8	1/2	1 1/4
	26	5/8	2 3/4	11/16	1 11/16
B	27	5/8	3/4	1 1/2	2 1/2
	30	11/16	2 1/2	9/16	1 7/16
	35	13/4	2 3/4	5/8	1 5/8
B	45	7/8	4 1/8	1 1/8	2 3/8
	50	15/16	*5	1 1/8	2 3/8
	55	1	2 3/4	3/4	2

† Shanks of B-17, 25, 30 and 35 are 7/16, 1/2, 9/16 and 5/8 inch in diameter for 3/4, 1, 1, and 1-1/8 inch from end respectively, as illustrated above.
* Also carried in stock in the following maximum lengths:—No. A-1, 3"; No. A-26, 4-1/2"; No. B-15, 4-1/2"; No. B-50, 8".

WILLIAMS' ♦“VULCAN”
MACHINE HANDLE FORGINGS

UNFINISHED
With Smooth, Planished Surface
BALL PATTERN



Number	00	0	1	2	3	4	5	6	7
Extreme Length.....	2	2 1/4	2 3/4	3 1/4	3 7/8	4 1/2	5 1/8	5 7/8	6 5/8
Standard Length, Shank.....	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
Maximum Length, Shank.....	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
Diameter, Shank.....	2/16	11/32	13/32	15/32	17/32	19/32	21/32	23/32	25/32
Weight Each, Lbs.....	.06	.09	.13	.22	.31	.37	.62	1.3	1.7

CONE PATTERN



Number	11	13	15	16
Extreme Length.....	3 1/2	4 1/2	5 1/2	6
Standard Length, Shank.....	1 1/2	3/4	7/8	1 1/8
Maximum Length, Shank.....	11/16	1 1/8	1 3/8	1 1/2
Diameter, Shank.....	3/8	7/16	1/2	9/16
Weight Each, Lbs.....	.22	.43	.75	1.1

♦ REGISTERED TRADE MARK

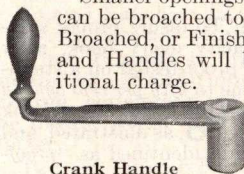
WILLIAMS' ♦“VULCAN” DROP-FORGED
BALANCE AND CRANK HANDLES

Unfinished are plain forgings without hole in hub.

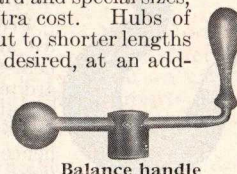
Broached have holes finished and hubs recessed or counter-bored in free end, but are otherwise plain forgings.

Finished are broached, counterbored in free end of hub, ground, polished, case-hardened all over and gray enameled. The broached openings are made with corners slightly rounded to prevent breakage and a slight clearance is provided.

Smaller openings than standard and special sizes, can be broached to order at extra cost. Hubs of Broached, or Finished can be cut to shorter lengths and Handles will be offset if desired, at an additional charge.



Crank Handle



Balance handle

No.	Length			Hub		Square Hole, Size Broached		Ball, Diam.	Wgt Each Lbs.
	C Hub to C Handle	Ex- treme	Handle Above Arm	Diam.	Lgth.	Std. in Stock	Max. to Order		
BALANCE HANDLES									
512	1 1/4	3 5/16	1 15/16	7/8	3/4	7/16	1/2	7/8	.25
516	1 5/8	4	2 1/4	7/8	7/8	7/16	1/2	1 1/4	.56
520	2	5	2 5/8	1	15/16	1/2	5/8	1 1/4	.75
522	2 1/4	5 1/2	2 3/4	1 1/4	1	1/2	13/16	1 3/8	1.1
525	2 1/2	6	2 13/16	1 1/4	1 1/8	5/8	13/16	1 7/16	1.3
529	2 7/8	7	3 5/16	1 1/4	1 1/4	5/8	13/16	1 1/2	1.6
434	3 3/8	8	3 7/16	1 1/2	7/8	5/8	3/4	1 3/4	1.3
439	3 7/8	9	3 1/2	1 5/8	1 1/16	5/8	3/4	1 3/4	2.8

† Handle cone-shaped; see Crank Handle cut above.

† Hub is a sphere, flattened on top and bottom; full size drawing on request.

CRANK HANDLES									
00	1 3/4	2 5/8	2 3/8	1	1 1/4	1/2	5/8	.....	.38
0	2 1/4	3 1/8	2 1/2	1	1 1/4	1/2	5/8	.....	.43
1	3	4	2 3/4	1 1/4	1 1/2	9/16	13/16	.....	.78
2	3 1/2	4 1/2	2 7/8	1 1/16	1 5/16	1/2	5/8	.....	.75
4	4	5 1/8	3 1/8	1 1/4	1 3/8	9/16	13/16	.....	1.
6	5	6 1/8	3 1/8	1 1/4	1 13/16	5/8	13/16	.....	1.1
8	6	7 1/8	3 1/8	1 1/4	1 15/16	11/16	13/16	.....	1.2
10	7	8 1/4	3 3/8	1 3/8	2 1/16	3/4	7/8	.....	1.6
12	8	9 3/8	3 5/8	1 9/16	2 7/16	7/8	1	.....	2.4
14	9 1/8	10 1/2	3 3/4	1 1/2	2 1/2	7/8	1	.....	2.5
16	10	11 1/2	4	1 3/4	3	1	1 1/8	.....	3.2

WILLIAMS' DROP-FORGED ROD ENDS
UNFINISHED



Drop-forged from mild steel which welds easily.

Dimensions show sizes of unfinished forgings. Prices will

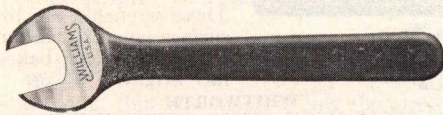
be given for special forms on receipt of models or drawings and specifications stating quantity required.

No.	Shank		Head	
	Diameter	Std. Length under Head	Diameter	Thickness
0B	3/16	4 13/16	3/8	1/4
1C	1/4	*5	5/8	1/4
1D	1/4	*2 3/8	7/16	1/4
2A	5/16	*3 3/4	3/4	7/16
2B	5/16	3 1/8	3/4	5/16
2C	5/16	5 3/4	3/4	3/8
2D	5/16	1 1/4	13/16	3/8
3A	3/8	*2	1	3/8
3C	3/8	*3 1/2	13/16	3/8
3E	3/8	3 1/8	5/8	5/8
3F	3/8	1 1/8	3/4	3/8
3G	3/8	1 7/16	5/8	3/8
3H	3/8	1 5/8	3/4	3/8
3I	3/8	3 1/16	7/8	3/8
4B	7/16	*4 1/2	15/16	5/8
5A	1/2	*4 3/8	(a) 1	1/2
5C	1/2	3 1/16	(b) 7/8	7/16
5D	1/2	*2 7/8	(b) 3/4	13/16
5E	1/2	*2 1/8	1 1/16	9/16
5F	1/2	2 1/16	13/16	11/32
7A	5/8	*2 3/8	1 1/8	15/32
7B	5/8	*4 7/8	1 1/4	19/32
7D	5/8	*7 1/2	1 5/32	21/32
7E	5/8	*5 7/8	(c) 1 1/8	1 1/16
7F	5/8	*4 1/2	1 7/16	11/16
7G	5/8	2 5/16	1	7/16
9A	3/4	*3 7/8	1 3/4	5/8
9B	3/4	*4	1 1/2	13/16
9C	3/4	*4 3/8	1 1/8	3/4
11A	7/8	*3 1/2	1 1/2	1 1/16
11B	7/8	*4	2	15/16
13B	1	*3 1/2	1 5/8	1 1/2
13C	1	*3 1/2	1 15/32	1 1/8
14A	1 1/16	*5 3/4	2 1/16	1 1/8
15B	1 1/8	*6	2 1/4	1 1/4
17A	1 1/4	*6	2 5/16	1 1/2

* Can be furnished longer if desired.

Largest Diameter Head (a) 1-1/4"; (b) 1-1/8"; (c) 1-9/16".

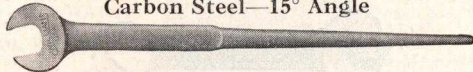
WILLIAMS' ♦ "SUPERIOR" ENGINEERS' WRENCHES Carbon Steel—15° Angle, Single Head



These wrenches are milled, surface and edges smooth, size stamped on head, hardened and black enameled (baked on)—heads bright.

WHITWORTH					METRIC MEASURE				
No.	For Whitworth Std.	For B.S.F.	Extreme Length, Approx.	Net Wgt., Lbs. Approx.	No.	Metric Openings m/m	Extreme Length, Approx.	Net Wgt., Lbs. Aprx.	
W00	1/8	3/16	3 1/2	.07	MS000	5	2 1/2	.03	
W0	3/16	1/4	4	.08	MS000T	6	2 1/2	.03	
W1	1/4	5/16	4 5/8	.13	M00T	7	3 1/2	.07	
W2	5/16	3/8	5 1/2	.20	M00	8	3 1/2	.07	
W3	3/8	7/16	6 3/8	.33	M0T	9	4	.08	
W4	7/16	1/2	7 1/4	.42	M0	10	4	.08	
W5	1/2	9/16	8 1/8	.61	M1T	11	4 5/8	.13	
W6	9/16	5/8	9 1/4	.91	M1	12	4 5/8	.13	
W7	5/8	11/16	10 1/2	1.3	M2T	13	5 1/2	.20	
W8	3/4	7/8	12	2.1	M2	14	5 1/2	.20	
W9	7/8	1	13 1/2	2.7	M2U	15	5 1/2	.20	
W10	1	1 1/8	15	3.5	M3	16	6 3/8	.33	
W11	1 1/8	1 1/4	16 1/2	4.6	M3U	17	6 3/8	.33	
W12	1 1/4	1 3/8	18 1/4	5.8	M3T	18	6 3/8	.33	
W13	1 3/8	1 1/2	20	7.2	M4T	19	7 1/4	.42	
W14	1 1/2	1 5/8	22	10.	M4	20	7 1/4	.42	
					M5T	21	8 1/8	.61	
					M5	22	8 1/8	.61	
					M6T	23	9 1/4	.91	
					M6U	24	9 1/4	.91	
					M6	25	9 1/4	.91	
					M7T	26	10 1/2	1.3	
					M7U	27	10 1/2	1.3	
					M7	28	10 1/2	1.3	
					M8U	29	12	2.1	
					M8	30	12	2.1	
					M8T	32	12	2.1	
					M9U	34	13 1/2	2.7	
					M9	35	13 1/2	2.7	
					M9V	36	13 1/2	2.7	
					M9T	38	13 1/2	2.7	
					M10	40	15	3.5	
					M10T	42	15	3.5	
					M11	45	16 1/2	4.6	
					M12	50	18 1/4	5.8	

WILLIAMS' ♦ "SUPERIOR" CONSTRUCTION WRENCHES Carbon Steel—15° Angle



Wrenches are milled, hardened and shot-blasted; heads bright.

WHITWORTH				
No.	For Whitworth Standard	For B. S. F.	Extreme Length, Approx.	Net Wgt., Lbs. Approx.
W201	1/4	5/16	9 1/2	.27
W202	5/16	3/8	9 1/2	.27
W203	3/8	7/16	12	.53
W204	7/16	1/2	12	.53
W205	1/2	9/16	14 1/2	1.
W207	5/8	11/16	17	1.7
W208	3/4	7/8	19	2.6
W209	7/8	1	21	3.7
W210	1	1 1/8	23	5.3
W211	1 1/8	1 1/4	25	7.3

WILLIAMS' ♦ "SUPERIOR" STRUCTURAL WRENCHES Carbon Steel—Straight Opening



Offset handle clears obstructions. For finish see above.

WHITWORTH				
No.	For Whitworth Standard	For B. S. F.	Extreme Length, Approx.	Net Wgt., Lbs. Approx.
W901	1/4	5/16	9 1/2	.33
W903	3/8	7/16	12	.63
W905	1/2	9/16	14 1/2	1.2
W906	5/8	11/16	17	1.9
W907	3/4	7/8	19	3.
W908	7/8	1	21	4.
W909	1	1 1/8	23	5.3
W910	1 1/4	1 3/8	25	7.4
W912				

♦ REGISTERED TRADE MARK

WILLIAMS' ♦ "SUPERIOR" ENGINEERS' WRENCHES Carbon Steel—15° Angle, Double Head



These wrenches are milled, surface and edges smooth, size stamped on head, hardened and black enameled (baked on)—heads bright.

WHITWORTH				
No.	For Whitworth Standard	For B. S. F.	Extreme Length, Approx.	Net Wgt., Lbs. Approx.
W21	1/8 & 3/16	3/16 & 1/4	4 1/8	.08
W22	1/8 & 1/4	3/16 & 5/16	4 1/4	.11
W23	3/16 & 1/4	1/4 & 5/16	4 1/2	.11
W24	3/16 & 5/16	1/4 & 3/8	5	.18
W25	1/4 & 5/16	5/16 & 3/8	5 3/4	.22
W26	1/4 & 3/8	5/16 & 7/16	6	.30
W27	5/16 & 3/8	3/8 & 7/16	6 3/4	.33
W28	5/16 & 7/16	3/8 & 1/2	7 1/4	.42
W29	3/8 & 7/16	7/16 & 1/2	7 7/8	.48
W30	3/8 & 1/2	7/16 & 9/16	8	.61
W31	7/16 & 1/2	1/2 & 9/16	9 1/8	.70
W32	7/16 & 9/16	1/2 & 5/8	10	.98
W33	1/2 & 9/16	9/16 & 5/8	10	.98
W34	1/2 & 5/8	9/16 & 11/16	11	1.3
W35	9/16 & 5/8	5/8 & 11/16	11	1.3
W36	9/16 & 3/4	5/8 & 7/8	12 3/8	2.
W37	5/8 & 3/4	11/16 & 7/8	12 3/8	2.
W38	5/8 & 7/8	11/16 & 1	13 1/2	2.9
W39	3/4 & 7/8	7/8 & 1	14	2.8
W40	3/4 & 1	7/8 & 1 1/8	15 1/2	3.7
W41	7/8 & 1	1 & 1 1/8	15 3/4	3.8
W42	7/8 & 1 1/8	1 & 1 1/4	17	5.8
W43	1 & 1 1/8	1 1/8 & 1 1/4	17	5.8
W44	1 & 1 1/4	1 1/8 & 1 3/8	19	7.3
W45	1 1/8 & 1 1/4	1 1/4 & 1 3/8	19	7.3

METRIC MEASURE			
No.	Metric Openings m/m	Extreme Length, Approx.	Net Wgt., Lbs. Approx.
M21	6 & 8	4 1/8	.08
M21T	7 & 9	4 1/8	.08
M21U	8 & 10	4 1/8	.08
M22	9 & 11	4 1/4	.11
M23	10 & 12	4 1/2	.11
M23T	11 & 13	4 1/2	.11
M25T	12 & 13	5 3/4	.22
M25	12 & 14	5 3/4	.22
M25U	13 & 15	5 3/4	.22
M27	14 & 16	6 3/4	.33
M27T	15 & 16	6 3/4	.33
M27U	15 & 17	6 3/4	.33
M28	16 & 18	7 1/4	.42
M28T	17 & 19	7 1/4	.42
M29T	18 & 19	7 7/8	.48
M29	18 & 20	7 7/8	.48
M30	19 & 21	8	.61
M31	20 & 22	9 1/8	.70
M31T	21 & 23	9 1/8	.70
M32T	22 & 24	10	.98
M32	22 & 25	10	.98
M32U	23 & 25	10	.98
M34	23 & 27	11	1.3
M34T	24 & 26	11	1.3
M34U	25 & 27	11	1.3
M35	25 & 28	11	1.3
M34V	26 & 28	11	1.3
M35T	26 & 29	11	1.3
M36T	27 & 29	12 3/8	2.
M36	28 & 30	12 3/8	2.
M36U	29 & 32	12 3/8	2.
M37	30 & 32	12 3/8	2.
M39	32 & 35	14	2.8
M40	33 & 39	15 1/2	3.7
M41	38 & 40	15 3/4	3.8
M41T	38 & 42	15 3/4	3.8
M43	42 & 45	17	5.8
M44	46 & 50	19	7.3
M47	50 & 55	21	9.3

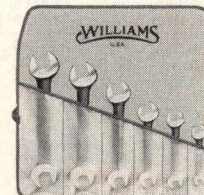
SET No. W-25
Whitworth

In Leatherette Roll
In Cardboard Box

Total Net Wgt.,
3.1 lbs.

CONTENTS

1 each Nos. W21, W25,
W27, W29, W31 and W33.



SET No. M-25
Metric Measure

In Leatherette Roll
In Cardboard Box

Total Net Wgt.,
2.8 lbs.

CONTENTS

1 each Nos. M21U, M25,
M28, M28T, M31 and M31T.

**WILLIAMS' ♦"SUPERIOR" CHECK NUT
OR THIN WRENCHES**

Carbon Steel—15° Angle, Single Head



This class of Wrench is guaranteed amply strong for its purpose, but is not designed for severe service.

WHITWORTH

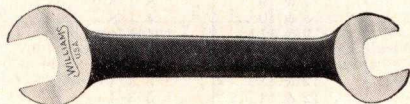
No.	For Whitworth Standard	For B. S. F.	Extreme Length, Approx.	Net Wgt., Lbs. Approx.
W601	1/4	5/16	4	.08
W602	5/16	3/8	4 1/2	.12
W603	3/8	7/16	5 1/8	.14
W604	7/16	1/2	5 7/8	.23
W605	1/2	9/16	6 5/8	.33
W607	5/8	11/16	8 1/2	.66
W608	3/4	7/8	10	1.1
W609	7/8	1	11 5/8	1.5
W610	1	1 1/8	13 1/4	2.5

METRIC MEASURE

No.	Metric Openings m/m	Extreme Length, Approx.	Net Wgt., Lbs. Approx.
M601	12	4	.08
M601T	13	4	.08
M602	14	4 1/2	.12
M602T	15	4 1/2	.12

**WILLIAMS' ♦"SUPERIOR" CHECK NUT
OR THIN WRENCHES**

Carbon Steel—15° Angle, Double Head



These Wrenches are milled, surface and edges smooth, sizes stamped on heads, hardened, black enameled (baked on)—heads bright.

WHITWORTH

No.	For Whitworth Standard	For B. S. F.	Extreme Length, Approx.	Net Wgt., Lbs. Approx.
W623	3/16 & 1/4	1/4 & 5/16	4 5/8	.08
W624	3/16 & 5/16	1/4 & 3/8	4 3/4	.11
W625	1/4 & 5/16	5/16 & 3/8	4 3/4	.11
W626	1/4 & 3/8	5/16 & 7/16	6	.17
W627	5/16 & 3/8	3/8 & 7/16	6	.17
W628	5/16 & 7/16	3/8 & 1/2	6 3/4	.23
W629	3/8 & 7/16	7/16 & 1/2	6 3/4	.23
W630	3/8 & 1/2	7/16 & 9/16	7 1/2	.36
W631	7/16 & 1/2	1/2 & 9/16	7 1/2	.36
W632	7/16 & 9/16	1/2 & 5/8	8 3/4	.36
W634	1/2 & 5/8	9/16 & 11/16	8 7/8	.59
W635	9/16 & 5/8	5/8 & 11/16	10 1/2	.95
W637	5/8 & 3/4	11/16 & 7/8	10 1/2	.95
W639	3/4 & 7/8	7/8 & 1	12 1/2	1.7

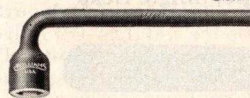
METRIC MEASURE

No.	Metric Openings m/m	Extreme Length, Approx.	Net Wgt., Lbs. Approx.
M623	10 & 12	4 5/8	.08
M623T	12 & 14	4 5/8	.08
M623U	13 & 15	4 5/8	.08
M626	14 & 16	6	.21
M626T	16 & 18	6	.21
M629	18 & 20	6 3/4	.23
M628T	19 & 21	6 3/4	.23
M630	20 & 22	7 1/2	.36
M630T	21 & 23	7 1/2	.36
M630U	22 & 25	7 1/2	.36
M634	23 & 27	8 7/8	.59
M634T	24 & 26	8 7/8	.59
M635T	26 & 29	10 1/2	.95
M635	28 & 30	10 1/2	.95

♦ REGISTERED TRADE MARK

**WILLIAMS' ♦"SUPERIOR"
OFFSET SOCKET WRENCHES**

Carbon Steel



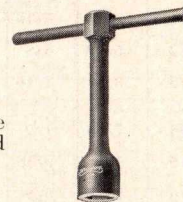
These wrenches are broached, surface smooth, hardened and black enameled (baked on)—face bright.

WHITWORTH

No.	For Whitworth Standard	For B. S. F.	Extreme Length, Approx.	Net Wgt., Lbs. Approx.
W264A	1/4	5/16	5 1/8	.22
W265A	5/16	3/8	5 7/8	.36
W267A	3/8	7/16	6 3/4	.67
W268A	7/16	1/2	7 1/2	.92
W269A	1/2	9/16	8 3/8	1.1
W270A	9/16	5/8	9 1/8	1.4
W271A	5/8	11/16	10	1.8
W273A	3/4	7/8	11 5/8	2.7
W275A	7/8	1	13 1/4	4.1
W276A	1	1 1/8	14 7/8	5.1

**WILLIAMS' ♦"SUPERIOR"
SOCKET WRENCHES**

Carbon Steel



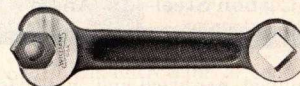
These wrenches are broached, surface smooth, hardened and black enameled (baked on)—face bright.

WHITWORTH

No.	For Whitworth Standard	For B. S. F.	Extreme Length, Approx.	Net Wgt., Lbs. Approx.
W963A	3/16	1/4	4 7/8	.30
W964A	1/4	5/16	5 1/4	.31
W965A	5/16	3/8	5 3/4	.45
W967A	3/8	7/16	6 1/2	.92
W968A	7/16	1/2	7	1.1
W969A	1/2	9/16	7 3/8	1.3
W971A	5/8	11/16	8 1/4	1.9
W973A	3/4	7/8	9 1/8	2.9
W975A	7/8	1	10	4.2
W976A	1	1 1/8	10 3/8	5.3

WILLIAMS' ♦"SUPERIOR" TOOL POST WRENCHES

For Nuts and Set Screws
Carbon Steel



Wrenches are milled, surface and edges smooth, hardened and black enameled (baked on)—heads bright.

WHITWORTH

No.	Whitworth Standard		For B. S. F.		Extreme Length, Approx.	Net Wgt., Lbs. Approx.
	Open	Closed	Open	Closed		
W563C	1/2	9/16	9/16	5/8	7	.84
W563D	1/2	5/8	9/16	11/16	7	.84
W564	5/8	5/8	11/16	11/16	7 1/2	1.1

WILLIAMS' ♦"SUPERIOR" HEX-BOX WRENCHES

Carbon Steel

Regular Pattern — 15° Angle



Wrenches are broached, surface and edges smooth, hardened and black enameled (baked on)—heads bright.

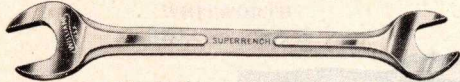
WHITWORTH

No.	For Whitworth Standard	For B. S. F.	Extreme Length, Approx.	Net Wgt., Lbs. Approx.
W802	5/16	3/8	4 7/8	.17
W803	3/8	7/16	5 7/8	.25
W804	7/16	1/2	6 7/8	.38
W805	1/2	9/16	7 3/4	.52
W806	9/16	5/8	8 3/4	.70
W807	5/8	11/16	9 7/8	.95
W808	3/4	7/8	11 1/2	1.4
W809	7/8	1	13 3/8	2.
W810	1	1 1/8	15 1/4	2.9

DROP - FORGINGS AND **WILLIAMS** DROP - FORGED TOOLS

WILLIAMS' ♦♦"SUPERRENCHES"♦♦

Selected Alloy Steel
NEW STREAMLINED DESIGN
15° Angle—Double Head Open-End



Jaws are long, thin and pointed, but the strength is the greatest ever put in a thin wrench. Drop-forged from Selected Alloy Steel, heat-treated, chrome-plated.

WHITWORTH

No.	For Whitworth Standard	For B. S. F.	Extreme Length, Approx.	Net Wgt., Lbs. Approx.
WA1021	1/8 & 3/16	3/16 & 1/4	4 11/16	.07
WA1022	1/8 & 1/4	3/16 & 5/16	4 7/8	.08
WA1023	3/16 & 1/4	1/4 & 5/16	5 1/8	.10
WA1025	1/4 & 5/16	5/16 & 3/8	6 1/4	.15
WA1027	5/16 & 3/8	3/8 & 7/16	7 1/2	.26
WA1028	5/16 & 7/16	3/8 & 1/2	8 1/4	.32
WA1029	3/8 & 7/16	7/16 & 1/2	9	.38
WA1030	3/8 & 1/2	7/16 & 9/16	9 3/4	.54
WA1031	7/16 & 1/2	1/2 & 9/16	10 1/2	.71
WA1033	1/2 & 9/16	9/16 & 5/8	11 3/8	.92
WA1034	1/2 & 5/8	9/16 & 11/16	11 3/8	.92
WA1037	5/8 & 3/4	11/16 & 7/8	13 1/4	1.4

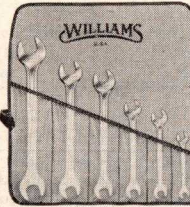
METRIC MEASURE

No.	Metric Openings m/m	Extreme Length, Approx.	Net Wgt., Lbs. Approx.
MA1021	6 & 8	3 13/16	.03
MA1021T	8 & 10	4 1/4	.05
MA1023	10 & 12	5 1/8	.10
MA1025	12 & 14	6 1/4	.15
MA1027	14 & 16	6 7/8	.20
MA1028	16 & 18	8 1/4	.32
MA1028T	17 & 19	9	.38
MA1029	18 & 20	9 3/4	.54
MA1031	20 & 22	9 3/4	.71
MA1031T	21 & 23	10 1/2	.92
MA1032	22 & 25	11 3/8	.92
MA1033	24 & 26	11 3/8	.92
MA1035	25 & 28	12 1/4	1.1

SET No. WA-1025 Whitworth

In Leatherette Roll
In Cardboard Box
Total Net Wgt.,
2.1 lbs.

CONTENTS
1 each Nos. WA1021,
WA1025, WA1027,
WA1029, WA1031 and
WA1033.



SET No. MA-1025 Metric Measure

In Leatherette Roll
In Cardboard Box
Total Net Wgt.,
1.9 lbs.

CONTENTS
1 each Nos. MA1021T,
MA1025, MA1028,
MA1028T, MA1031
and MA1031T.

WILLIAMS' ♦♦"SUPERECTOR"♦♦ REVERSIBLE RATCHET WRENCHES With Quadruple Pawls and Drop-Forged Handle



For use with sockets listed below. Finished in baked gray enamel.

No.	Length From Center of Head	Net Weight, Lbs. Approx.
E1-24	24	9.3
E1-36	36	12.8

WILLIAMS' ♦♦"SUPERECTOR"♦♦ SOCKETS



Sockets have hole extending clear through their center so that nuts may be turned all the way down on any length of bolt. Finished in baked gray enamel.

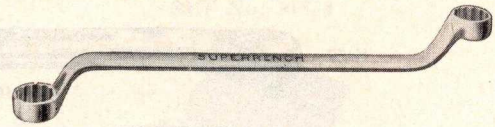
WHITWORTH

No.	For Whitworth Standard	For B. S. F.	Net Weight, Lbs. Approx.
WE1-617	5/8	11/16	2.6
WE1-620	3/4	7/8	2.5
WE1-623	7/8	1	2.5
WE1-626	1	1 1/8	2.6
WE1-629	1 1/8	1 1/4	2.8
WE1-632	1 1/4	1 3/8	3.2
WE1-635	1 3/8	1 1/2	5.8

♦ REGISTERED TRADE MARK

WILLIAMS' 12-POINT-BOX ♦♦"SUPERRENCHES"♦♦

Selected Alloy Steel
Double Offset Pattern



Thin head walls permit use where clearance is extremely limited.

Drop-forged from Selected Alloy Steel, heat-treated and chrome-plated.

WHITWORTH

No.	For Whitworth Standard	For B. S. F.	Extreme Length, Approx.	Net Wgt., Lbs. Approx.
W8723	1/8 & 3/16	3/16 & 1/4	7 3/4	.26
W8025	3/16 & 1/4	1/4 & 5/16	8 3/4	.43
W8727	1/4 & 5/16	5/16 & 3/8	9 3/4	.59
W8729	5/16 & 3/8	3/8 & 7/16	11	.84
W8029	3/8 & 7/16	7/16 & 1/2	11	.84
W8733	7/16 & 1/2	1/2 & 9/16	13 1/2	1.4
W8033C	1/2 & 9/16	9/16 & 5/8	14 1/2	1.1
W8034A	1/2 & 5/8	9/16 & 11/16	15 1/2	1.3
W8037	9/16 & 5/8	5/8 & 11/16	17	2.1
W8039	11/16 & 3/4	3/4 & 7/8	19	3.3
W8039A	5/8 & 3/4	11/16 & 7/8	19	3.3
W8039B	3/4 & 7/8	7/8 & 1	19	3.3
W8041	7/8 & 1	1 & 1 1/8	23	5.7
W8045	1 1/8 & 1 1/4	1 1/4 & 1 3/8	25	8.5
W8049	1 3/8 & 1 1/2	1 1/2 & 1 5/8	27	10.2

METRIC MEASURE

No.	Metric Openings m/m	Extreme Length, Approx.	Net Wgt., Lbs. Approx.
M8021	8 & 10	7 1/2	.18
M8723	9 & 11	7 3/4	.26
M8023	10 & 12	8 1/4	.43
M8025A	12 & 13	8 3/4	.43
M8725B	13 & 14	8 3/4	.43
M8025	13 & 15	8 3/4	.43
M8727	14 & 16	9 3/4	.59
M8727A	15 & 17	11	.59
M8729	16 & 18	11	.84
M8029	17 & 19	11	.84
M8729A	18 & 19	12 1/2	.84
M8731A	18 & 20	12 1/2	1.
M8031B	19 & 20	12 1/2	1.
M8731B	21 & 22	12 1/2	1.
M8033	23 & 24	13 1/2	1.1
M8033C	23 & 25	14 1/2	1.1
M8034	23 & 27	15 1/2	1.3
M8735A	25 & 28	17	2.1
M8735	26 & 29	17	2.1
M8039	30 & 32	19	3.3

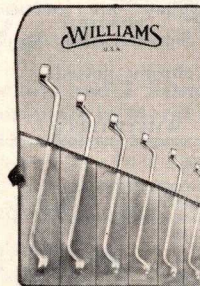
SET No. W-8006 Whitworth

In Leatherette Roll
In Cardboard Box

Total Net Wgt.,
3.6 lbs.

CONTENTS

1 each Nos. W8723, W8025,
W8727, W8029, W8733 and
W8033C.



SET No. M-8006 Metric Measure

In Leatherette Roll
In Cardboard Box

Total Net Wgt.,
3.5 lbs.

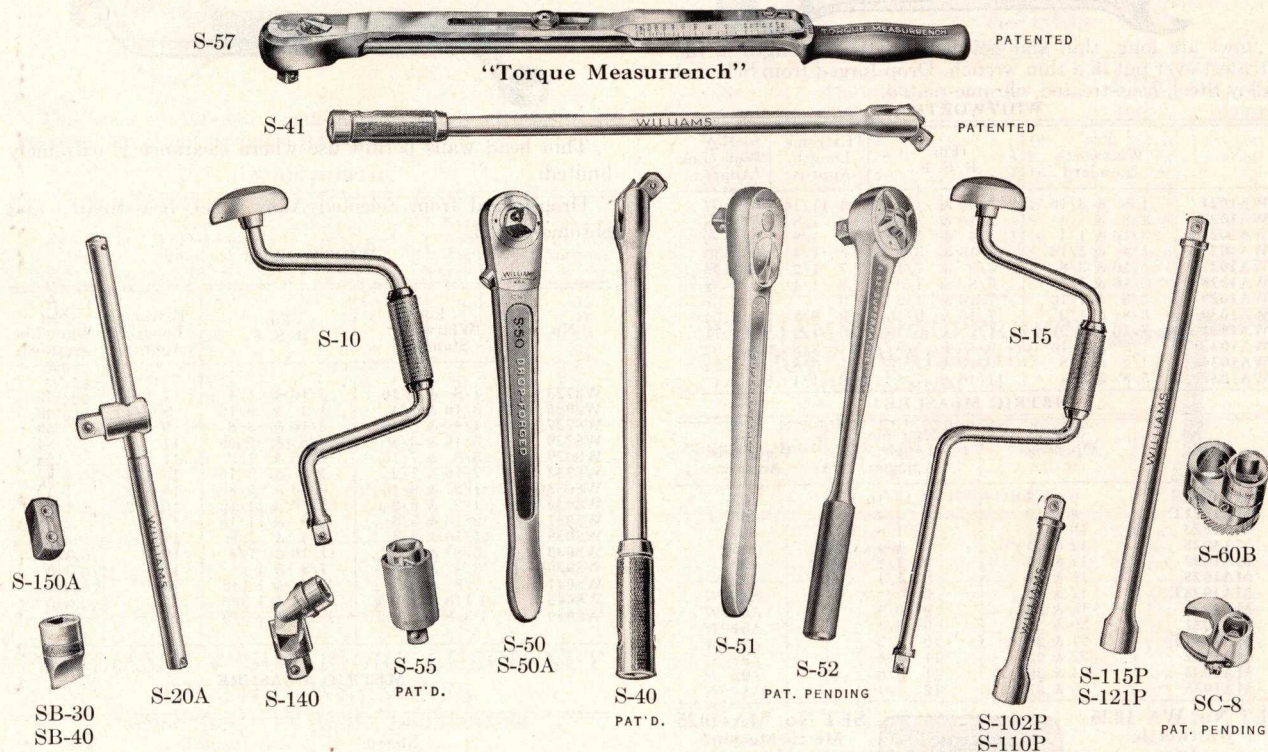
CONTENTS

1 each Nos. M8023, M8025,
M8727, M8029, M8731A
and M8033C.

WILLIAMS' ♦ "SUPERSOCKET" WRENCHES

Selected Alloy Steel

Standard Pattern—1/2" Square Drive



HANDLES AND PARTS

No.	Piece	Net Wgt., Lbs. Approx.	No.	Piece	Net Wgt., Lbs. Approx.
SC-8	Adjust. Crowfoot Attachment, 15/16" Capacity	.37	S-52	Reversible Ratchet—11-1/4" long	1.2
S-10	Speeder—12" long, revolving grips	1.8	S-55	Reversible Ratchet Adapter—2-9/16"	.5
S-15	Speeder—17-1/2" long, revolving grips	2	S-57	Torque "Measurrench"—19-1/2" long. Indicates R.H. Torque. Has Torque indicating signal	3.7
S-20A	Sliding T Handle—11" long	.96	S-60B	Stud Remover—1/4 to 3/4" Capacity	.52
SB-30	Screw Driver Attachment—7/64 x 15/16"	.14	S-102P	Extension Bar—2-1/2" long	.27
SB-40	Screw Driver Attachment—3/32 x 1-1/4"	.16	S-110P	Extension Bar—5-1/2" long	.53
S-40	Flex Handle—12" long, 7/16" crosshole	1.4	S-115P	Extension Bar—10-1/2" long	1
S-41	Flex Handle—17-1/4" long, 7/16" crosshole	1.9	S-121P	Extension Bar—20" long	2.1
S-42B	Sliding Bar—7/16 x 9" for S-40 and S-41	.35	S-140	Universal Joint—range approx. 140°	.34
S-50	Ratchet—10" long with plug-connector	1.3	S-150A	Ratchet Plug-Connector for S-50	.08
S-50A	Ratchet—10" long without plug-connector	1.3			
S-51	Reversible Ratchet, 10-1/2" long	1.4			

"SUPERSOCKETS"



REGULAR
12-POINT

Williams' Standard Sockets have thin walls for work in close places. They are accurately made from Selected Alloy Steel, heat-treated and chrome-plated.

WHITWORTH

No.	For Whitworth Standard	For B. S. F.	Net Wgt., Lbs. Approx.
STW-1206	3/16	1/4	.11
STW-1208	1/4	5/16	.13
STW-1210	5/16	3/8	.13
STW-1212	3/8	7/16	.16
STW-1214	7/16	1/2	.23
STW-1216	1/2	9/16	.28
STW-1218	9/16	5/8	.34
STW-1220	5/8	11/16	.48
STW-1222	11/16	3/4	.61
STW-1224	3/4	7/8	.75

METRIC MEASURE

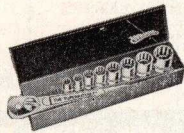
No.	Metric Openings m/m	Net Wgt., Lbs. Approx.
STM-1210	10	.11
STM-1211	11	.11
STM-1212	12	.11
STM-1213	13	.11
STM-1214	14	.11
STM-1215	15	.13
STM-1216	16	.13
STM-1217	17	.14
STM-1218	18	.17
STM-1219	19	.17
STM-1220	20	.19
STM-1221	21	.23
STM-1222	22	.27
STM-1223	23	.28
STM-1224	24	.28
STM-1225	25	.33
STM-1226	26	.47
STM-1227	27	.47
STM-1228	28	.48
STM-1229	29	.52
STM-1230	30	.59
STM-1231	31	.66
STM-1232	32	.69
STM-1233	33	.78
STM-1234	34	.81
STM-1235	35	.86
STM-1236	36	.92

WILLIAMS' "SUPERSOCKET" WRENCH SETS

Selected Alloy Steel

Standard Pattern—1/2" Square Drive

**WHITWORTH
SET No. WS-3**



**8 Sockets and 1 Attachment
Complete in Metal Case**

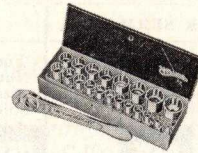
Total Net Weight, Approx. 5.8 lbs.

Case—2-1/8 x 3 x 12-1/2"

CONTENTS

- 8 Standard "Supersockets"—Nos. STW-1210, STW-1212, STW-1214, STW-1216, STW-1218, STW-1220, STW-1222 and STW-1224.
- 1 S-51 Reversible Ratchet—10-1/2" long.

**METRIC MEASURE
SET No. MS-4**



**20 Sockets and 1 Attachment
Complete in Metal Case**

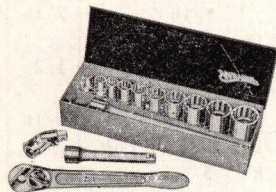
Total Net Weight, Approx. 7.8 lbs.

Case—2-1/8 x 3-3/4 x 12"

CONTENTS

- 20 Standard "Supersockets"—Nos. STM-1210 to STM-1229 inclusive.
- 1 S-51 Reversible Ratchet—10-1/2" long.

**WHITWORTH
SETS Nos. WS-4 and WS-4B**



Complete in Metal Cases

Case—2-1/8 x 3-3/4 x 12"

No. WS-4

10 Sockets and 4 Attachments

**Total Net Weight
Approx. 7.9 lbs.**

No. WS-4B

10 Sockets and 1 Attachment

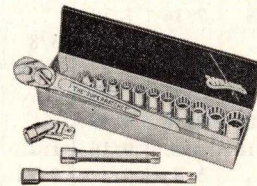
**Total Net Weight
Approx. 6.2 lbs.**

CONTENTS

- 10 Standard "Supersockets"—Nos. STW-1206, STW-1208, STW-1210, STW-1212, STW-1214, STW-1216, STW-1218, STW-1220, STW-1222 and STW-1224.
- 1 S-51 Reversible Ratchet—10-1/2" long.
- *1 S-110P Extension Bar—5-1/2" long.
- *1 S-115P Extension Bar—10-1/2" long.
- *1 S-140 Universal Joint—range approx. 140°.

* Not included in Set No. WS-4B.

**METRIC MEASURE
SETS Nos. MS-1 and MS-1B**



Complete in Metal Cases

Case—2-1/8 x 3 x 12-1/2"

No. MS-1

11 Sockets and 4 Attachments

**Total Net Weight
Approx. 6 lbs.**

No. MS-1B

11 Sockets and 1 Attachment

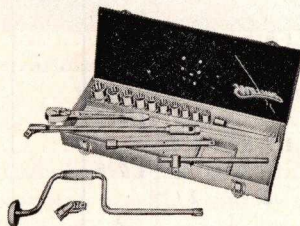
**Total Net Weight
Approx. 4.3 lbs.**

CONTENTS

- 11 Standard "Supersockets"—Nos. STM-1210 to STM-1220 inclusive.
- 1 S-51 Reversible Ratchet—10-1/2" long.
- *1 S-110P Extension Bar—5-1/2" long.
- *1 S-115P Extension Bar—10-1/2" long.
- *1 S-140 Universal Joint—range approx. 140°.

* Not included in Set No. MS-1B.

**WHITWORTH
SET No. WS-5**



**10 Sockets and 7 Attachments
Complete in Metal Case**

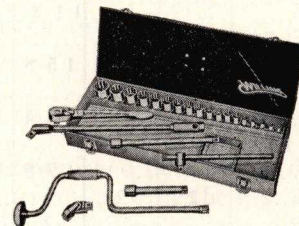
Total Net Weight, Approx. 16.7 lbs.

Case—2-1/4 x 7-1/2 x 20-3/4"

CONTENTS

- 10 Standard "Supersockets" Nos. STW-1206, STW-1208, STW-1210, STW-1212, STW-1214, STW-1216, STW-1218, STW-1220, STW-1222 and STW-1224.
- 1 S-15 Speeder—17-1/2" long.
- 1 S-20A Sliding T-Handle—11" long.
- 1 S-41 Flex Handle—17-1/4" long.
- 1 S-51 Reversible Ratchet—10-1/2" long.
- 1 S-110P Extension Bar—5-1/2" long.
- 1 S-115P Extension Bar—10-1/2" long.
- 1 S-140 Universal Joint—range approx. 140°.

**METRIC MEASURE
SET No. MS-5**



**18 Sockets and 7 Attachments
Complete in Metal Case**

Total Net Weight, Approx. 17.4 lbs.

Case—2-1/4 x 7-1/2 x 20-3/4"

CONTENTS

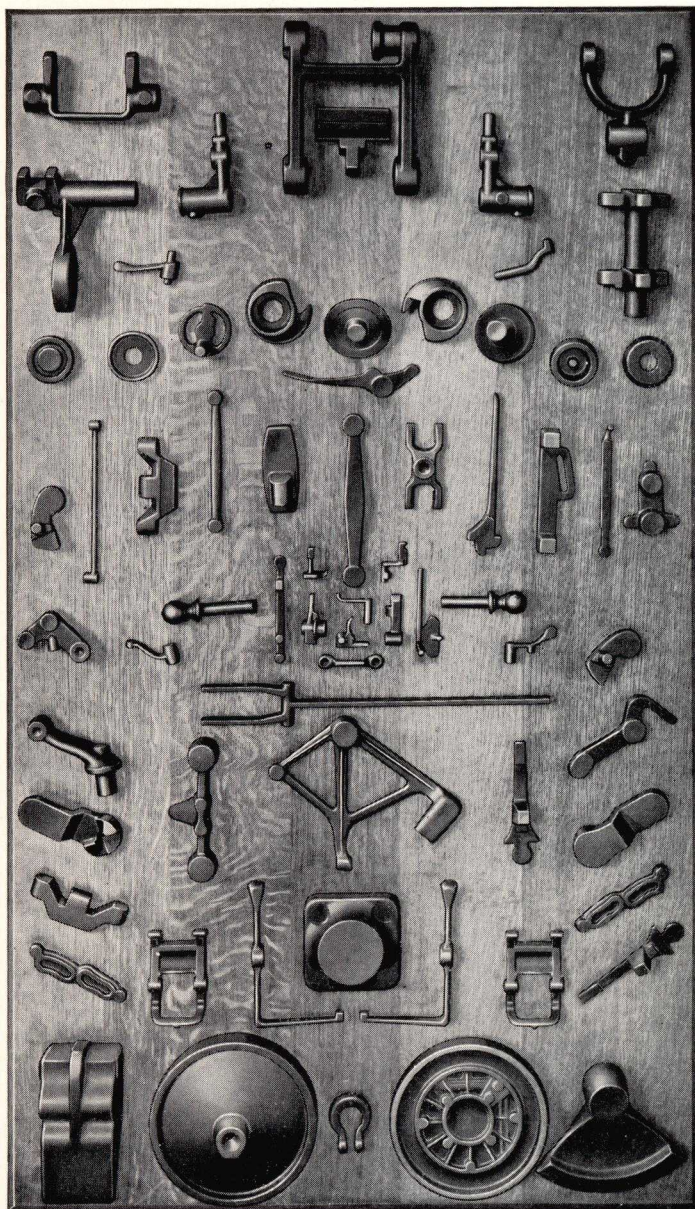
- 18 Standard "Supersockets"—Nos. STM-1210 to STM-1227 inclusive.
- 1 S-15 Speeder—17-1/2" long.
- 1 S-20A Sliding T-Handle—11" long.
- 1 S-41 Flex Handle—17-1/4" long.
- 1 S-51 Reversible Ratchet—10-1/2" long.
- 1 S-110P Extension Bar—5-1/2" long.
- 1 S-115P Extension Bar—10-1/2" long.
- 1 S-140 Universal Joint—range approx. 140°.

COMPARISON CHART

New and Old American Standard Square and Hexagon Bolts and Nuts
as related to nominal wrench openings

Nominal Wrench Opening	REGULAR SERIES				HEAVY SERIES				LIGHT SERIES		FINISHED SERIES			For Hex Head CAP SCREWS Diam. Screws		For SET SCREWS Diam. Screws	For Mach. Screw Nuts and Stove Bolt Nuts
	For Nuts Size Bolts	For Nuts Size Bolts	For Bolts Diam.	For Bolts Diam.	For Nuts Size Bolts	For Nuts Size Bolts	For Bolts Diam.	For Bolts Diam.	For Nuts Size Bolts	For Nuts Size Bolts	For Nuts & Thick Nuts Size Bolts	For Bolts Diam.	For Heavy Bolts Diam.	NEW	OLD	OLD and NEW	OLD and NEW
	NEW	OLD	NEW	OLD	NEW	OLD	NEW	OLD	NEW	OLD	NEW	NEW	NEW				
5/32																	No. 0 & 1
3/16																No. 10	No. 2 & 3
1/4																1/4	No. 4
5/16																5/16	No. 5 & 6
11/32																	No. 8
3/8			*1/4	1/4												3/8	No. 10
7/16	1/4	1/4	1/4								1/4	1/4		1/4	1/4	7/16	No. 12 & 1/4
1/2			5/16	5/16	1/4	1/4		1/4			5/16	5/16		5/16	5/16	1/2	
9/16	5/16	5/16	3/8	3/8	5/16						3/8	3/8		3/8	3/8	9/16	5/16
19/32						5/16		5/16									
5/8	3/8	3/8	7/16	7/16							7/16		7/16	7/16	7/16	5/8	3/8
11/16					3/8	3/8		3/8									
3/4	7/16	7/16	1/2	1/2	7/16						1/2	1/2		1/2	1/2	3/4	
25/32						7/16		7/16									
13/16	1/2	1/2	9/16									9/16		9/16	9/16		
7/8	9/16	9/16		9/16	1/2	1/2	1/2	1/2			9/16	9/16	1/2		5/8	7/8	
15/16			5/8	5/8	9/16	9/16		9/16			5/8	5/8	5/8	5/8		3/4	1
1	5/8	5/8															
1 1/16					5/8	5/8	5/8	5/8			3/4		5/8				
1 1/8	3/4	3/4	3/4	3/4								3/4	3/4	3/4	7/8	1 1/8	
1 1/4					3/4	3/4	3/4	3/4			7/8		3/4			1 1/4	
1 5/16	7/8	7/8	7/8	7/8								7/8	7/8	7/8	1		
1 3/8																1 3/8	
1 7/16					7/8	7/8	7/8	7/8			1		7/8				
1 1/2	1	1	1	1								1	1	1	1 1/8	1 1/2	
1 5/8					1	1	1	1			1 1/8		1				
1 11/16	1 1/8	1 1/8	1 1/8	1 1/8								1 1/8	1 1/8	1 1/8	1 1/4		
1 13/16					1 1/8	1 1/8	1 1/8	1 1/8			1 1/4		1 1/8				
1 7/8	1 1/4	1 1/4	1 1/4	1 1/4								1 1/4	1 1/4	1 1/4			
2					1 1/4	1 1/4	1 1/4	1 1/4			1 3/8		1 1/4				
2 1/16	1 3/8	1 3/8	1 3/8	1 3/8								1 3/8	1 3/8	1 3/8			
2 3/16					1 3/8	1 3/8	1 3/8	1 3/8			1 1/2		1 3/8				
2 1/4	1 1/2	1 1/2	1 1/2	1 1/2								1 1/2	1 1/2	1 1/2			
2 3/8					1 1/2	1 1/2	1 1/2	1 1/2					1 1/2				
2 7/16	1 5/8	1 5/8	1 5/8	1 5/8								1 5/8	1 5/8				
2 9/16					1 5/8	1 5/8	1 5/8	1 5/8					1 5/8				
2 5/8		1 3/4	1 3/4	1 3/4								1 3/4	1 3/4				
2 3/4					1 3/4	1 3/4	1 3/4	1 3/4					1 3/4				
2 13/16		1 7/8	1 7/8	1 7/8								1 7/8	1 7/8				
2 15/16					1 7/8	1 7/8	1 7/8	1 7/8					1 7/8				
3		2	2	2								2	2				
3 1/8					2	2	2	2					2				
3 3/8		2 1/4	2 1/4	2 1/4								2 1/4	2 1/4				
3 1/2					2 1/4	2 1/4	2 1/4	2 1/4					2 1/4				
3 3/4		2 1/2	2 1/2	2 1/2								2 1/2	2 1/2				
3 7/8					2 1/2	2 1/2	2 1/2	2 1/2					2 1/2				
4 1/8		2 3/4	2 3/4	2 3/4								2 3/4	2 3/4				
4 1/4					2 3/4	2 3/4	2 3/4	2 3/4					2 3/4				
4 1/2		3	3	3								3	3				
4 5/8					3	3	3	3					3				
5			3 1/4		3 1/4	3 1/4		3 1/4									
5 3/8			3 1/2		3 1/2	3 1/2		3 1/2									
5 3/4			3 3/4		3 3/4	3 3/4		3 3/4									
6 1/8			4		4	4		4									

* Square Only



Illustrations of Drop-forgings made to order;
not for sale from stock

DROP-FORGINGS TO ORDER

Drop-forgings are used in vast quantities for a wide variety of mechanical purposes. They are made of steel, bronze, copper, iron and many other metals.

Their quality depends upon the material and the care and skill used in their manufacture. Our Chemical Laboratory checks all material as received; our Physical Laboratory tests forgings while in process and upon completion; our skill has been developed by half-a-century's experience in producing our standard stock tools and innumerable special designs to order.

MATERIAL

The material usually employed in making drop-forgings is bar steel. By carrying thousands of tons of assorted grades, shapes and sizes, many orders for drop-forgings can be completed without waiting to obtain the material. This is often a great convenience to our customers, particularly in the case of new dies, where the correct size of metal required cannot always be definitely determined until the tools are completed and tried.

DIES

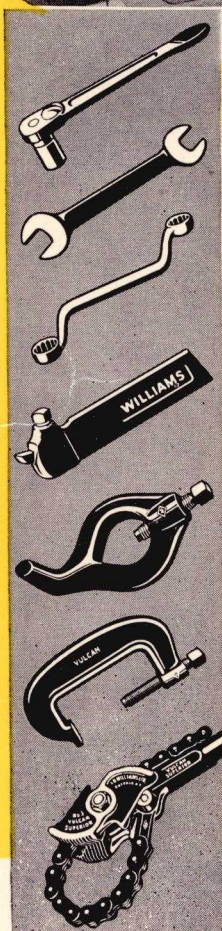
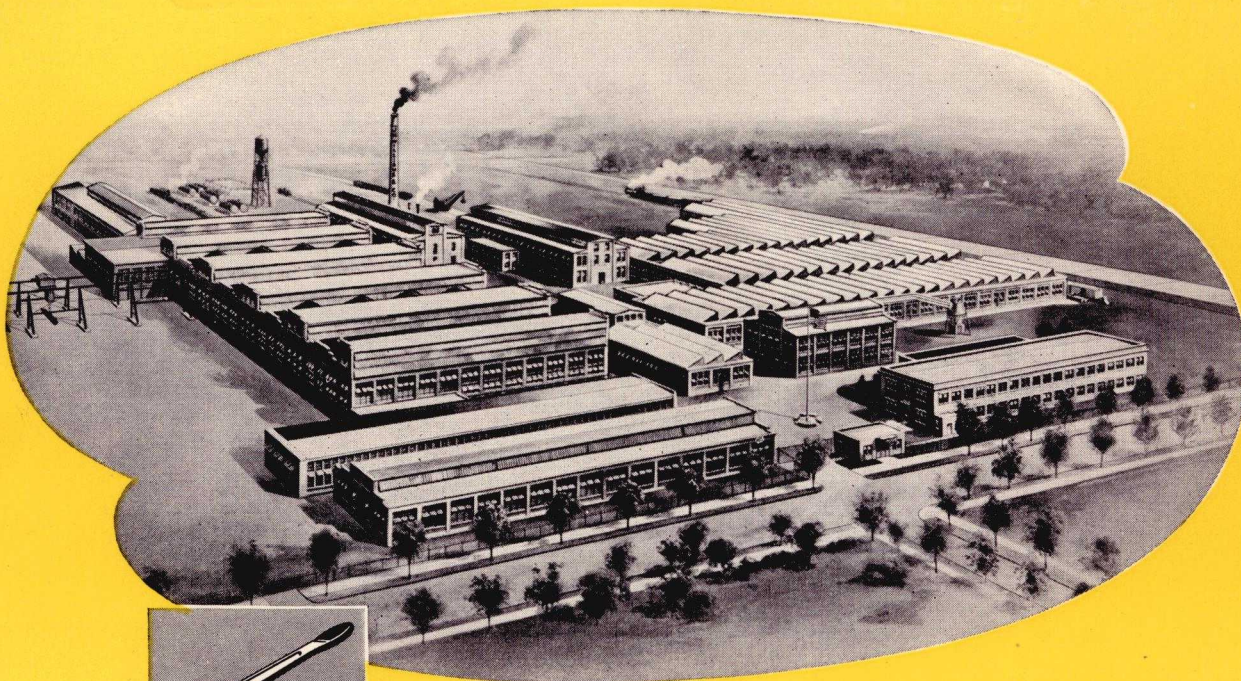
Our facilities for sinking drop-forging dies, from the smallest, weighing only a few pounds, to massive blocks of several tons weight each, are unexcelled. Charges, when made for the use of dies, include but a portion of their cost and do not convey the right of removal from our works. We assume the risk and expense of their breakage and maintenance; the customer controls their use, as we will not make forgings from them without his written authority.

ESTIMATES

Dies are made to conform to a drawing; they usually differ from the finished part by the addition of the stock for removal in finishing and by the necessary draft, or taper, to permit drawing the forgings from them. Draft is seldom less than seven degrees—frequently it is more. Before sinking dies, we always submit to the customer for approval, a blue print showing the addition of the stock to be removed in finishing and the draft, with such other modifications as may be necessary.

When estimates are desired, therefore, send us a model, or drawing, of the part and state whether it shows "forging size" or "finished size," the quantity of forgings wanted and the material of which they are to be made. If the model, or drawings shows "finished size," tell us what surfaces are to be finished. We usually add at least 1/32 inch on each surface to be machined. On large forgings we add 1/16 to 1/8 inch; on small pieces, requiring only grinding or polishing, 1/100 inch is allowed.

The price of drop-forgings is largely affected by the quantity made with one setting of the tools; it costs as much to set dies for 100 as for 1000 pieces, and the forging work is also more costly per unit in small lots. Prices for drop-forgings vary with the nature of the work, the material used, the heat-treatment if any, and the quantity taken at one time.



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